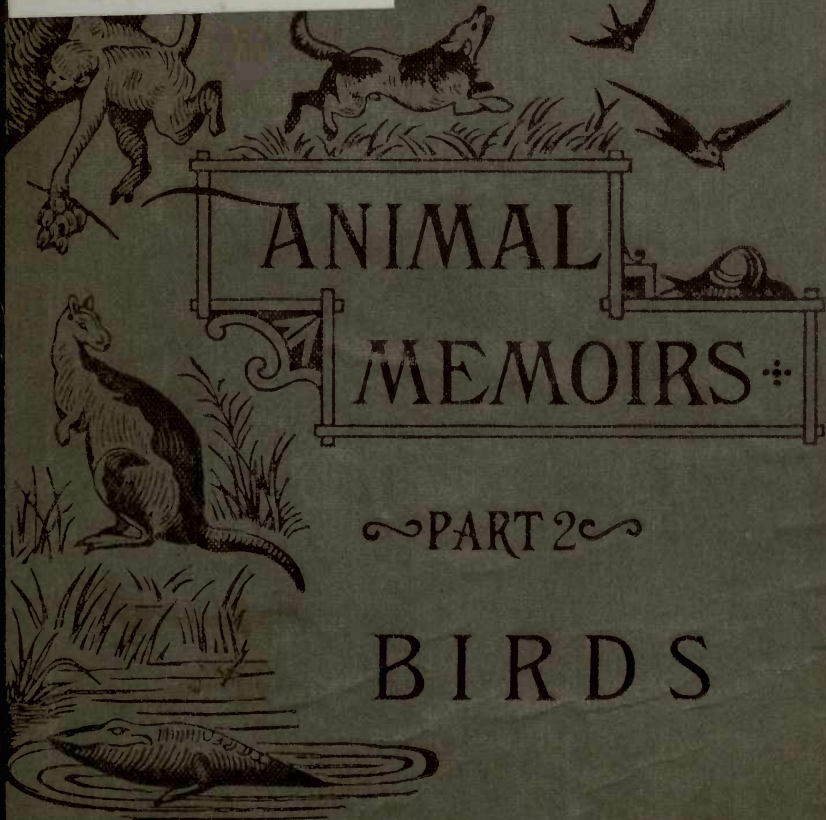


Dr. Lockwood's
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~PART 2~

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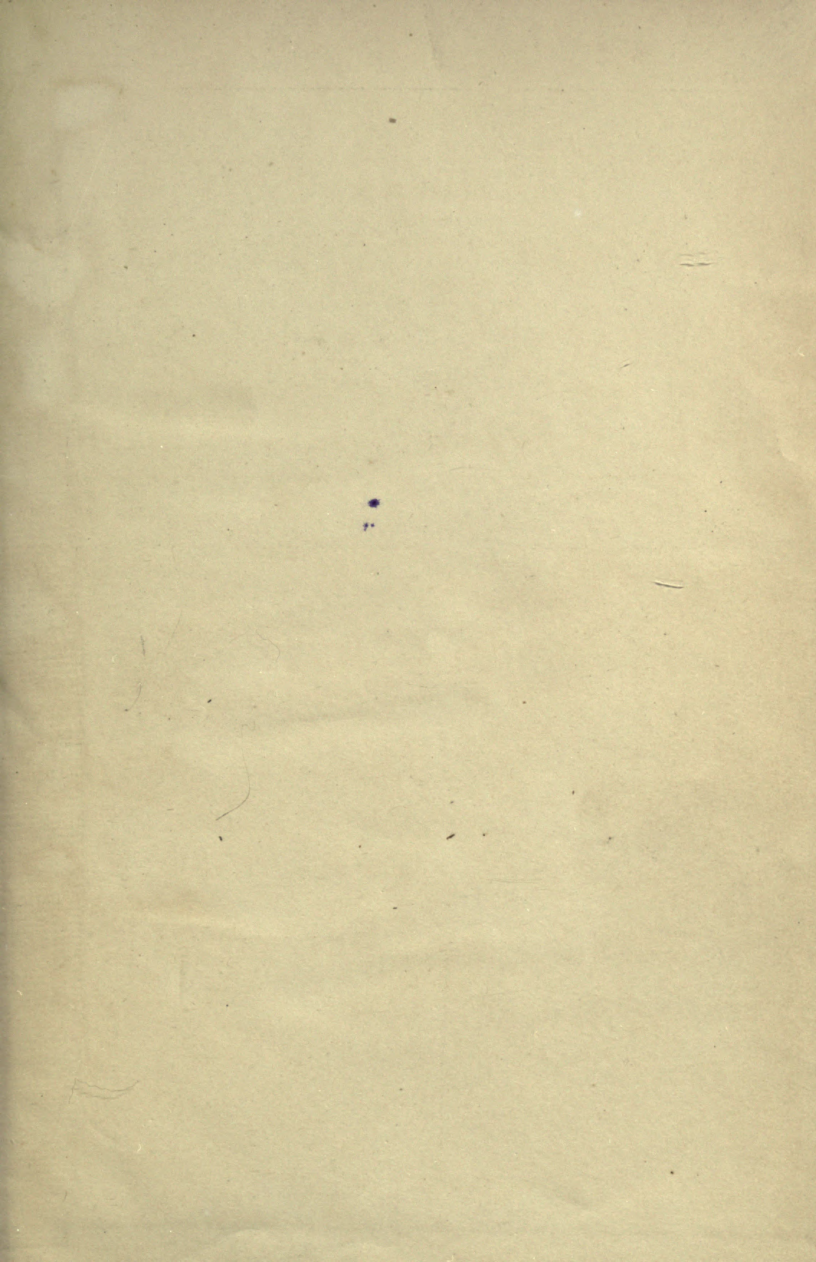
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READINGS IN NATURAL HISTORY

ANIMAL MEMOIRS

PART II

BIRDS



BY

SAMUEL LOCKWOOD, PH. D.

IVISON, BLAKEMAN, AND COMPANY

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NEW YORK AND CHICAGO

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PREFATORY.

THE present volume is the second in a series intended to deal in a biographical way with that branch of the Animal Kingdom known as the *Vertebrata*. But my present limits must exclude the base and the crown of this great Branch. For at the bottom in modern science are the *tunicata* and other worm-like creatures, with simply a hint of the osseous skeleton in a soft, cartilaginous cord, with nothing at the end to even resemble a skull. Higher up are the sharks and rays, with imperfectly osseous frames. I have left all these out of my plan, and shall take in as the lowest—the Fishes proper. As the crown of the Mammals is man—"the paragon of animals;" and as he too is left out of my plan, I seem to be dealing with a column without base and capital; still there is no sacrifice of completeness, for, though base and capital be not considered, the shaft is treated in its entirety.

I wish just here to say something in regard to my use of technical words. In these volumes, no such word occurs without an unfolding of it in an easy way in the immediate context. To omit such would be to write baby-books. I had thought to give a glossary of these terms at the end of each book. But this, too,

would defeat my wishes. For the palate and the digestion, the good cook as a rule can best infuse the condiments. The cruet, salt-cellar, and pepper-box are not always properly used by the younger members of the table group. The caster is best served by the older people.

A good book is often to the young mind as gold in the ore. The smelting-pot should be the mind of the instructor. With such helps behind the book, I am positive that every technical word can be made to glow with light to the interest of the youthful reader. The mist lifted off a technical word, like the film removed from a painting, reveals "a thing of beauty."

All through my books the closest context unveils these significant and attractive pictorial words. Hence, it must be that the verbal vision of the reader grows finer and more precise as he is carried along, if the instructor will but dwell a little on these words as they occur.

And my last word shall be a serious one. Mastery in words allies elegance to honesty. Verbosity can be meaningless and insincere. And this dodging the mastery of words that may be a little difficult or unusual must beget slovenliness of expression. How truly John Ruskin says: "You might read all the books in the British Museum, if you could live long enough, and remain an utterly illiterate, uneducated person. But if you read ten pages of a good book, letter by letter,—that is to say, with real accuracy,—you are forevermore, in some measure, an educated person."

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ANIMAL MEMOIRS.


The Birds.

Who are the birds? They are those living things
In bright attire, having pinioned wings,
And who of all earth's breathing hosts can dare
To dominate the waters, land and air.

CHAPTER I.

THE STRUCTURE OF A BIRD.

I

F it were possible to have lived one's life among terrestrial beasts, without having ever seen a bird, what excitement of the imagination, and how exquisite would be the conception of a new form of living beauty, on beholding for the first time one of these refulgent-robed passengers of the air!

And this first acquaintance, let us suppose, is made with a gay little warbler, which is even taken in the hand and inspected with curious interest. The very build of the little thing is attractive and unique, such its symmetry and neatness of outlines, as if it might be a tiny, living canoe. And then its plumage, a dress

so rich in fabric and so brightly gay in its vivacity of colors, glinting in the sunlight. Little wonder if inspection should disarrange its pretty plumes. And how strange the forward limbs! and yet so shapely,—would not the mind be singularly wrought upon by the pretty novelty?

If now this elegant little sprite, in the confidence which birds have in man before they find him out, should perch on the finger, this capacity of grasping with the feet would itself arrest attention. Suppose now it sets about removing the rumpling, which its pretty coat had received from that inspection of curiosity, so that with its little beak it should begin anointing each feather, and skillfully re-arranging it in its place, how novel the conduct of the pretty midget would appear! But what amazement if the weird, tiny thing should expand the forward limbs, which we, familiar with such creatures, call wings, and should fly away,—should even sing, and soar, mounting heavenward! This cluster of functional wonders, of feet and feathers, of beak and wings and throat, would bewilder the mind or make it giddy in delight. But such delicious astonishment is hardly to be described.

II

This book is to deal with the class *Aves*, the Birds, and our intention is to do for them as was done for the Mammals. It will aid our understanding of the memoirs of these creatures, if a little clearing up of the ground be done first, in respect of their special

structure and habits as birds, in many of which they differ so widely from the quadrupedal beasts.

What a straining of the neck,—in fact, what a contortion of the entire body,—when Ponto or Tabbie wishes to brush the back of his coat, or to remove something offensive from the dorsal fur. But to the bird, for the purpose of the toilet, every part of the body is equally easy of access. When describing some special points in the anatomy of a mammal, it was said the beast had two occipital condyles, and the bird only one; that is to say, mammals have their heads united to the atlas or top joint of the vertebral column by two hinges, but the bird's head is thus attached by but one hinge.

Now for the mammal this twofold hinging of the skull to the vertebral column makes it impossible for the animal to turn its head completely round; but to the bird, whose skull is connected by but one hinge, this is an easy thing to do. It can look down its back, and with its beak can dress every dorsal feather, one by one.

III

The bill or beak of a bird is a prominent object, sometimes pert and pretty, as in the finches, and generally in the song birds, but positively a monstrous looking thing in many, as in the Toucans and the entire parrot tribe. The bird's beak is chiefly horn, and is composed of upper and lower jaw, with the nostrils in the former, and both being movable. Literally speaking, the beak is toothless, though in some birds something like dentine, or tooth substance, may be detected. It is, however, so

elementary as not to be worthy of the name of true teeth. Externally, a bird's beak is notably of horn. The fossils show that the earliest birds had true bony jaws and teeth like the lizards, which they also resembled in other features. Quite prominent in the bill of the male shelldrake, *Merganser serrata*, is a row of sharp-pointed, conical teeth, pointing backward, the series looking at first sight like a saw, hence its scientific name, the Saw-toothed Merganser. But these are not true bone or dentine. They are of the nature of the bill, horny. In form and setting, but not in substance, they are remarkably like the teeth of the fossil birds described by Professor Marsh.

But these fossil birds were pretty close to the reptiles, and were also aquatic. Still we must observe that even among the parrots it would seem that there are traces of reptilian predecessors in this matter of teeth, and the parrot tribe possesses excessively horny beaks. Some of the young birds of this family are found having "dental papillæ," that is, little prominences "actually capped with dentine, the fundamental basis" of all teeth. Perhaps the most remarkable in this respect is the curious bird known as the Plant-cutter of Bolivia (*Phytotoma rara*). This has bony denticles in the beak. They seem really like rudimentary teeth, and they are the occasion of much mischief in destroying plants.

IV

To call any one light-headed would be to designate him as giddy or vain; and to say a man is hard-

headed is to set him down as mean or obdurate. But such epithets are figurative, for speaking literally we can say all this of a bird and no harm done. The sutures or lines of jointing of the several parts of the skull of a bird grow together, uniting and becoming solid, thus securing a hard, strong casket for the brain. At the same time this structure is endowed with many small cavities or cells, rendering the skull lighter, it being set "in communication with the air cavities of the ear and nose."

And it is characteristic of the bones in the general skeleton of a bird, that they are light, yet strong, for they are as hard as ivory, and usually hollow. There are exceptions to the rule,—yet it prevails largely, that the bones of the skeleton generally are filled with air. And even in the flesh are numerous cavities so filled, a condition very serviceable to a creature that has to traverse the air on wing. Yet this rule is not absolute, for curiously, the swift, which almost lives in the air, seldom perching except to roost, has not hollow bones, they being filled with marrow. The gannets and pelicans have all the bones, except the toes, provided with air cavities. So, too, the running birds, such as the ostrich, have the principal bones filled with air,—for instance, the leg, spine, pelvis, skull, and shoulder girdle,—but the penguins have no air cavities in these bones.

But a difference may not be a discrepancy, though this tripping up of rules of our own framing does almost make Nature seem capricious, and at so many turns perplexing to her most loving students. However,

the following may be accepted as in general true of the physiology of birds. "Their lungs are fixed against their ribs, and enveloped in a membrane pierced with large holes, which permit the air to pass into cavities in the breast, abdomen, and even into the interior of the bones." This conformation not only renders them more buoyant, but also prevents any interruption in their respiration by the rapidity of their motion through a resisting medium. It also increases their vital energy. The capacity of birds for respiration is very great. Lavoisier says that two sparrows consume as much air as a guinea-pig.

How small is the beak of a swallow! And yet, when opened wide, how large the cavity thus exposed! This seeming inconsistency is due to the articulation of the mandibles. The connection of the lower jaw of a mammal to the upper is a simpler matter than with the birds. In the former two mere points or condyles serve to articulate the lower to the upper, the latter being so firmly set as a part of the skull that it is not movable. Between the two mandibles of a bird are certain supernumerary bones, which not only enable both jaws to be moved, but to be opened wide,—for how small is the beak of a swallow, but how wide a gape it can display upon necessity. It is in this way, with mouth opened wide, the bird sails through a swarm of gnats and takes its fill of even such diminutive prey.

V

Of all creatures birds have the hottest blood; and no animal can endure the sudden and great extremes of temperature as some of the birds. The condor can mount many thousands of feet into a freezing region, and yet can descend almost like a thunderbolt upon the cadaver lying on the torrid plain. This instant adjustment to the temperature we do not understand when soaring in regions of intense cold, then suddenly alighting on the burning land.

There is, however, another adjustment to the circumstances of aerial heights and depths, which is probably understood. It belongs especially to the birds of prey, the *Raptores*. I have had many opportunities of observing the osprey, or fish-hawk. This noble bird builds an immense nest in a large tree,—returning to it yearly until the tree succumbs. The osprey likes the contiguity of man, but not too near. If one goes under his tree he is watchful and uneasy. But, curiously, if you are on horseback, or in a vehicle, you may be tolerated at close quarters; for the shrewd fisher seems to know that men don't go a-gunning in wagons or on horseback.

This intentional digression may aid me in stating an incident. I was in my buggy crossing the Shrewsbury River, on the bridge which enters Red Bank. I saw circling so high in air, as to appear a small thing, an osprey,—and was admiring the sight,—when startling myself and the horse, the great bird descended like a bolt from the sky, striking the water

not many feet from us, and almost on the instant rising with its prey in its talons. It was a large eel, and not a little trouble did the captive give the captor by its lively squirming, which could be plainly seen. In fact, at first it impeded the bird's flight as it sped away to the hungry ones in the eyrie.

Now here assuredly was necessary some delicate optical adjustments. High up like a speck in the sky, where the creature was watching the water, it surely needed a telescopic vision to detect that fish so far below, and so like in color to the mud in which it lay on the river's bed. Then, that descent as if shot like a shaft from the sky,—what a sudden, almost instantaneous, shortening of the sight, until it changes from that of the telescope to that of a hand-glass.

VI

The word sclerotic, from the Greek, meaning hard or firm, is applied to the tunic which almost invests the optic pupil, and is known as the white of the eye. In the lizards, generally, and sometimes in the turtles, and those birds which mount great aerial heights, and some fishes which descend to the depths of the sea, this encasement of the eye can assume a character not found in the mammals. In a word, this usually cartilaginous enclosure, though generally the thickest in the mammals, is never osseous or bony as it sometimes is in the other classes of animals. Hence a little digression must be permitted here, that we may the better understand the structure and functions of this organism in a bird.

Taking up a vertebra, or joint, of a fish's back-bone, it is seen to be bi-concave, that is dished, or depressed on each face, where it connects with its fellows. This feature is peculiar to the fishes. In the sea of that long ago in the earth's history, known to the geologist as the Jurassic Period, among kindred outré beings lived an immense creature, whose vertebræ were of this description. It also had great, whale-like paddles. It thus received the name *Ichthyosaurus*, or fish-lizard. Its neck was short as in the fishes; and the head showed decided features of both the crocodile and the lizard. It had crocodilian teeth. But the nostrils of the crocodile are near the tip of the snout, whereas those of the *Ichthyosaur* were near the eyes, which is a true lizard characteristic.

VII

But the point I would specially consider in this ancient monster is the structure of its eye, which, though also a feature of the lizards, brings us directly to our birds. The eye-sockets of this monster were immense, and each contained a ring with a dozen or more thin plates, or staves of bone, making so to speak, though the top and bottom were lacking, a little keg. With a complement of muscles, these bony plates could be brought closer together, thus lengthening or telescoping the eye; or they could be separated, thus shortening and widening the optic so as to get a nearer vision. These adaptations would be made when pursuing its prey far off, or deep down in the waters.

In the true fishes this bony surrounding of the eye

is simple like a capsule, not being made up of plates, hence in form not unlike the tube of an opera-glass. In the Ichthyosaur I think this osseous tube consisted of thirteen pieces. In some of the birds it numbers as high as twenty. In the golden eagle this bony circle is very perfect and beautiful; and it is more or less complete in all the falcon tribe. It is capable of delicate, gradual, and even rapid adjustment, by which the bird can descry its prey at long or short distances. And in the instance of our fish-hawk, when descending like a bolt upon its finny prey, which is viewed through the two media of air and water, there are some optical adjustments performed that for delicacy and rapidity are simply admirable. But sometimes the minuteness of the object seen by a falcon at such great heights increases the wonder. A bird of prey, hovering high above the earth, detects a field mouse creeping through the grass, or a ground lark sitting upon her nest. With lightning-like velocity it launches itself upon the victim, and the eye, which a few moments before had scanned the earth from so great an elevation, is now employed in dissecting the quarry with almost anatomical nicety. Thus writes a sportsman naturalist.

But does my reader take this statement in with the intelligence of which it is worthy? Let your imagination look upon the falcon as he is, — a large bird, — and try to get at its elevation in the sky, where he seems but a speck. The mouse and the lark are small indeed, — and yet how well that watcher in the sky has descried them from his far-distant post, and so well,


that the swoop is made upon the little victim with unerring aim. Surely, then, the eye that can do all this is an instrument suited to the most delicate adjustment for the requirements of distance, and capable of a marvelous precision.

The giant condor, whose home is in the Andes, has been seen circling in air so far above the very highest peak, that the elevation could be determined at 25,500 feet! At such a point water in the air would be impossible, except in a frozen mist. And yet this immense creature, with its naked, wrinkly head and neck, can sail in this region of intense cold, prospecting its carrion or living prey, which discerned, it will on the instant descend to the torrid plain. It is easy enough to state these amazing figures, but not so to understand the phenomena involved,—such respiratory adjustments properly firing the furnace of the blood for these thermal extremes,—and such its nice adaptation of the optic lenses to distance and temperature, all conspire to make of the bird a marvelous machine.

CHAPTER II.

WHAT IS A BIRD?

I

 HAVE tried to outline, without the use of technical terms, those features in a bird's anatomy which differ from the corresponding parts in animals out of the avian, or bird class. And yet, significant though these differences be, they are for the most part those which escape ordinary observation. Hence, I fancy that our imaginary person who saw a bird for the first time did not notice specially any of the points upon which we have dwelt, however interesting and important they have appeared to us.

Still, I think that three features would be clearly noticed by our supposed observer; also, that upon a fourth point his mind would be exercised sufficiently to induce inquiry.

He must have seen with delightful surprise the 'voluptuous elegance' of its attire, the novel fabric so to speak of its dress, for he beheld a creature clad in a vestment of feathers; and a feather was something of which his imagination never dreamed.

And then the unusual sight,—the exquisite care the

little thing took of its plumage, such delicate dressing in adjusting and anointing,—could not be without a novel significance.

And would he not behold with astonishment this pretty creature traveling in the air! He observed that the “beautiful thing” had “earth-treading feet” and sky-cleaving wings.

Now, if the rude savage must wonder what is inside the watch to make the hands go round, so would our supposed observer like to know something of the inner mechanism, the cords and pulleys, the muscles and the bones, which composed this machinery of flight. And to his mind these four considerations would nearly cover the difference between a bird and a beast. And surely, in the common acceptation, he is about right. Hence, I have reserved for this chapter these very considerations, for, if understood, they qualify us to answer the question,—What is a Bird?

II

The Anatomy of a Feather.

The person whom we supposed to have seen a bird for the first time in his life was not attracted by its mechanism of muscles and bones. That which caught his eye most especially, and struck his fancy, was its pretty dress, its plumage; in a word, that in which it differs from every other living thing, its feathers.

For comparison let us for a moment examine the structure of a hair. Passing over the bulb, or root commonly called, which has some similarity to that of

a feather, we find that an ordinary hair is a thread-like body, in general terms either cylindrical or flat; in the latter case, known as wool. It has a central substance named the medulla or pith, and its outer part or enclosing cylinder is the cortex. Such for our present purpose is sufficient on a hair.

But we may not dismiss a feather so easily, for it is really a complicated and beautiful affair. A complete feather has an offshoot on its lower part, a supplemental feather so to speak, which is usually a very pretty thing. Taking any ordinary feather, we notice that its central part consists of a main shaft, stem, or scape, with a web or vane on each side. This scape is in two parts. There is first the tube known as the quill or barrel, and technically as the calamus. Of this pens were formerly almost exclusively made. This quill has five distinct qualities. It is horny, hollow, hard, cylindrical, and semi-transparent. Its lower end enters the cuticle and flesh of the bird. The second, or upper part of the stem, or scape, is known as the shaft proper. This is squarish, less horny than the barrel, opaque, and filled with white pith. There is often at the upper end of the barrel a small tuft of down, but of the entire stem the shaft only carries the web or vane which occupies both the sides.

This vane, or web of a feather, is composed of a series of flat or very narrow projections, like tiny lances; that is, they are almost linear, and finely pointed, and set more or less at a sharp angle to the side of the shaft. Each of these projected lines is called a barb.

III

But we must now look at our feather with a good hand-lens, for unless it be magnified its pretty structure will not be seen. Now it is plain that a feather is a compound thing, in fact, is made up of a great many minute feathers; for just as the main shaft has on its sides webs or vanes composed of barbs, so each barb has on each side a tiny web or vane, made up of tinier barbs. These little barbs are called barbules. And an important office has each barbule, for lapping each upon the other, the web of the feather is woven or put together as the lapping shingles upon a roof.

But a shingle is a simple, straight-lined affair, and its lapping is merely the lying of one flat surface upon another. A very different thing is the barbule of a feather. And now our hand-lens fails us, and the microscope must be used. With this we see at the extreme edge of the web of a barbule what looks like a fraying out; and curiously this "fray" is resolved into two kinds of extremely minute processes, one being hair-like and the other hook-like. These together are called barbicels, and the two kinds are distinguished as *cilia*, or little hairs, and *hamuli*, or little hooks. These complete the mechanism in the webbing of a feather, for with these diminutive hooks the barbicels of one barbule hook on, or lock into the barbicels of the next barbule, and so on through the entire series in the whole web.

This beautiful contrivance, the interlocking of the barbicels, adds great strength to the surface of that ele-

gant and powerful organ, the wing of a flying bird. It secures strength, too, with lightness of structure, and compactness,—that is, closeness. It would never do to have the canvas of a sailing vessel of an open fabric, as that would let the air or wind go through at a loss of push to the vessel. So with a flying bird, without this denseness very much of the sustaining force of the air would be lost. Thus the wing of a bird,—in fact, its general structure, is built upon purely pneumatical principles.

IV

A Bird's Toilet.

This outfit of feathers is an object of incessant care. Such washing and dressing as a bird gives its plumage may have in it something of personal pride; for, as will appear further on, a bird can be much annoyed by a change of color in a feather. I think, however, next to the necessity of attention to its feathers, for the sake of preservation, the matter of the creature's comfort is concerned.

By common consent, the name preening is used to designate the action of a bird in dressing its feathers. If my lady has her comb and pomade, so has a bird its outfit in delicate unguent, and the sensitive edges of its bill. The union of a bird's skull to the neck by a single hinge, and the facility thus afforded for turning the head in any direction, even to the looking down the back, has been described. Without this facility, preening, so peculiar to the feathered race, would be impossible. If it were

simply cleaning the plumage, many an animal might match the bird, the cat for instance,—yes, and even the long-horned beetles will brush their delicate antennæ, with almost ingenious tact.

But the care and skill required of a bird in this matter of preening its feathers is greater than anything required of other animals. As a rule, the beasts are very mindful of the condition of their fur, cleaning it by licking, even combing the hair to some extent, by the fine rasping of the papillæ of the tongue. But preening the feathers is in several respects very unlike the combing of the hair; for it may be necessary that each feather should be dressed separately; and a feather is a more complicated thing than a hair.

V

Besides comfort, is the matter of convenience or use. Whether flying, swimming, or diving, the disposition of the feathers must have regard to smoothness, in order to avoid friction. It is a custom in yacht-racing to oil the hull of the vessel, for the purpose of lessening friction. The bird has the outfit known as the "oil-jug," where the oil-glands lie. This serves the purpose of dressing out the feathers when preening, and of a general lubrication, if needs be, which thus renders the plumage impervious to water, and in the diving birds facilitates a movement far more rapid than that ever achieved by the fastest yacht. Even in the barn-yard we may see just before a fall of rain each fowl preening from the oil-jug,—in a word, extemporizing a water-proof suit for the approaching storm.

Let us now look a little in detail at this delicate operation of preening, or dressing up again an injured or disordered feather. The vanes or webs are badly out of shape,—and their innumerable tiny branches are snarled in a seemingly inextricable tangle, or twist on each side the shaft. How nicely the creature with both points of bill and end of tongue sorts out, flattens, straightens, and adjusts each minute separate part. Not merely are the little barbs unruffled that compose the web, but also the tiny barbules, which make up the barbs; yes, and more delicate still, the hamuli, or hook-like barbicels, are reset or made to interlock or catch, each on its own part in the stiffening, and staying of the web of the feather. And may we not here behold a motive? As so much of the plumage is on the back, the question is now intelligible how could this preening be possible, if the bird's head were double-hinged to the neck like that of a mammal?

VI

The Mechanism of the Wing.

Only the birds possess in perfection the capacity of flying. True it is that the art is shared by the bats; but these creatures in this regard are hampered with limitations, and at their best are hardly bird-like in their movements in the air; nor even on the land, for there the poor things are awkward even to the extreme of helplessness,—and at a great remove from deserving the poet's compliments to the typical bird:

"Birds! birds! ye are beautiful things,

With your earth-treading feet and your cloud-cleaving wings."

Yet even this weird flyer of the night, whose movements in the air seem like wild dashes, has a skill of its own, and matchless of its kind. In the height of its speed, it can avoid collision with any obnoxious object in its way, passing so close as to be remarkable, and yet without touching. Still its course in the air is jerky and lacks the grace and ease of the birds. It is a hairy and not a feathered creature. It tires soon, and cannot perform one of those almost mystical movements of the most gifted birds. It cannot soar, nor can it for an instant poise itself in air. The bats do not migrate, but go into hibernation; hence Nature does not exact of these little night beasts any of those marvelous journeys imposed on the birds of passage.

VII

Though as to weight the wing of a bird is extremely light, it is endowed with the ability to perform astonishing feats of strength. The storks, and many of the smaller birds, migrate from Europe to Africa in the autumn, and return again in the spring. Thus twice a year they actually cross the Mediterranean Sea. In migrating it is not an uncommon thing for a bird to fly several hundreds of miles without stopping for rest. Thus, without saying more of the structure of the wing than that it is a greatly modified hand, it will be sufficient for our purpose, if the bracing of the framework be considered, by which the wing is given attachments which make this exercise of strength possible.

Very different in length is the neck of a crane from

that of a sparrow, for a bird's neck may contain from nine to twenty vertebræ. But whether long or short, the neck is very flexible, the joints all moving easily upon one another. This extreme flexibility is necessary for the catching of food,—the simple truth being that functionally the birds beak is its hand and its neck is its arm.

But quite curiously, when we leave the cervical vertebræ and come upon the next four or five just behind these, and in the dorsal series, we find the exact reverse of flexible. These are rigid and immovable, being united firmly together; and, in fact, the hinder vertebræ are not only soldered to each other but connected also with the sacrum or great bone below, thus altogether giving an admirable purchase and support to the wings. And throughout the remainder of a bird's bony frame this stiffening of the whole, with a severe economy of weight, prevails. All this, too, should be correlated with the fact that the osseous substance of a bird's skeleton is compact, never spongy; and thus the entire mechanism is elegant, being well knitted, light and strong.

VIII

In man the principal vertebræ are movable, and the bones are heavy, and, in comparison with those of a bird, weakly united. And there are other considerations, such as weight of body and the outfit of muscles necessary to the work, in which a man and a bird are contraries,—for the bird is light, and its muscles are

massive, but man is heavy and his muscles are small. Thus albeit his great achievements, he must yield to the birds the kingdom of the air. As to any attempt at the mastery of the atmosphere in the manner of the birds, man as yet has not gone beyond the experiment of Darius Green with his flying machine. And why men must fail in this is sufficiently apparent, if but a comparison be made of his own structure with that of a bird. But I will let Arthur Nicols state the case:—

“Some, with an insane confidence in their machines, and the power of their arms, have launched themselves from towers and precipices, only to perish miserably; and others have glided down an inclined plane in the air from a balloon or mountain-top on an apparatus that is nothing more than a modification of the parachute.

“If the inventors of ingenious machinery, designed to be worked by human muscles, had known the elements of anatomy, they would not have wasted their energy on any plan in which the muscles of a man were to do a work commensurate with that accomplished by a bird. On each side of the bird’s keeled breast-bone lie enormous masses of flesh, constituting the pectoral muscles; and these, in several species, are as large as all the other muscles of the body combined. Indeed, the muscles of the most powerful carnivora bear quite an insignificant relation to the work demanded of them, in comparison with those which move the wing of a pigeon.

“How, then, could the feeble arms of a man sup-

port, and move with the requisite velocity, any imitation of the wing, which would enable him to raise himself from the earth, and soar into the air? for until that is done, he cannot claim to have accomplished anything like flight. In order to fulfill the first condition of flying, the muscles of the human chest must become between sixty and seventy times more powerful than they actually are; and this increase of strength must be associated with an arm of very different structure, having lighter bones, stronger sinews, and a more efficient disposition of the levers. The downward action of the human arm is one of its weakest movements; but this is the strongest of all in the wing of a bird.

“The conditions of the problem to be solved lie, nevertheless, within narrow limits; but they can only be usefully considered when we have recognized the disproportion of man’s muscular power to the force necessary to propel wings of such magnitude, as alone would be competent to sustain his weight.”

IX

Nature herself seems to dissuade from the bootless ingenuity of the flying machine, in that she has not “been able to provide such large birds as the ostrich, rhea, and cassowary with wings large enough to carry them; and some of the heavier vultures cannot entirely fold their immense pinions when walking, but are compelled to carry them partially extended. In view of such facts, then, man must abandon all hope of emulating bird-flight, by any disposition of mem-

branes attached to his limbs, and moved by his own unaided muscular force."

I must now present a strong feature, to which no allusion has been made,—the form of a bird as relating to the matter of flying.

The typical form of a bird's body is that of an oval, that is, it is more or less that of an egg, the heavy end being forward. If, in a ship, the center of gravity were not kept below the surface of the water, it would capsize, and, in respect of lading, this center of gravity must be below the center of the ship's hull—so with a bird, it is actually situated below the center of its body.

X

As to the method of the working of the wings I have said nothing. It is all done from the shoulder-joints, and the rigging with which this is accomplished is all in the great muscles of the breast, which are so enormous as to weigh in round terms one-sixth the entire weight of the bird. These living ropes raise as well as lower the wings; and both series, the lifters and the pullers, are below the shoulder. The lifters work "like men hoisting sails from the deck of a vessel; and thus, like a ship's cargo, a bird's chief weight is kept below the center of motion. It is interesting to know that the pulling muscles of a bird are much stronger than the lifting muscles,—the heavy work in flying being the pulling down,—for the striking of the wings upon the air, to offset the effect of gravity, which is drawing the body to the earth."


Says Dr. Coues, in graphic words: "Top-heaviness is further obviated by the fact that birds, with a long, heavy neck and head, draw this in upon the breast, and extend the legs behind, as is well shown in a heron flying. The nice adjustment of balance by the variable extension of the head and legs is exactly like that produced by shifting the weight along the bar of a steel-yard; this, with the slinging of the chief weight under the wings instead of over, or even between them, enables a bird to keep right-side up in flight, without exertion."

A bird, then, is a feathered creature. Its method of dressing the plumage, called preening, is peculiar to itself; and in its capacity of flying it is peerless, and holds the dominion of the air.

CHAPTER III.

THE MIGRATION OF BIRDS.

I

HE general movement of the birds in autumn leaving their summer home for the winter of another clime, and known as migration, is also a habit of many of the finny tribes. The old fishermen on the Delaware called the snipe the shad-bird, because "southerly winds and a hazy sky," they said, brought both bird and fish. In both these classes, however, are species which do not migrate, but stay at or near the old home the year round.

I cannot think with some, who have written quite ably on this theme, that, given a look-out sufficiently high to take in the trending of the mountains, or the course of the rivers, and the bird will have all it needs to know of its migration journey.

Nor do I regard this faculty in birds of passage as simply instinct, but an endowment only feebly possessed by man; though, with his scientific instruments, he extorts many secrets of the skies. It appears to me that birds of passage are observers of influences, or impressions, as well as inspectors of direction. Assur-

edly the sense of locality and direction must be strong, yet I think that they are better meteorologists than surveyors.

II

If we could question the bird mind for its motives, it would be easier to feel our way. The sportsman will say he has seen snipes probing the mud of the marsh for worms on a mild day, at the breaking of the winter. Then a snow-storm has come, driving the poor birds into any covert near by, where they will shiver and almost starve.

But, may not this be simply losing one's head over the fullness of the banquet, and "the keen demands of appetite." The giddy bird has been feasting well, and heeded not the signs. In Australia the kangaroos know when the grass famine is near; and Nature has furnished the animal with an equipment of travel, that it can seek other fields a hundred miles away. Yet some are too indolent for the journey. They are the stay-at-homes, and having nothing to graze they tear up the roots, and soon upon such mean and scanty fare become emaciated, if they do not perish outright.

III

The facts of bird migration impart fine color and warmth to the poetry of the ancients; and the shepherd poets of Judea were neither visionaries nor 'hearth-rug' naturalists. They beheld animal life with thoughtfulness. Without seeming to themselves so to do, those

olden prophets are often found geometrizing the truths of nature; so clear, clean, and poetical are the lines of the expression. And this is never more so than when birds, bright and musical, flit through the sacred narrative like lines of illumination. In this wise, in most poetical utterance, do those seers make allusion to a dignified necessity in the life of the birds, this need of a winter and a summer home.

"The stork in the heaven knoweth her appointed times; and the turtle and the crane and the swallow observe the time of their coming." And when they return to their nesting-places, it is a gushing time. "The flowers appear on the earth, the time of the singing of birds is come." As the swallow skims with gladness the pond again, the husbandman takes heart, and girds himself for the field, saying: "The winter is over and gone." This to him is an assured conviction, such as "Old Probabilty" cannot produce.

As to the *fact* of the migration of birds there never was a time when it was not known among men; and yet regarding this fact the amount of confusion of opinion is nothing less than surprising. To me it is as wonderful as it is delightful to notice the clear mental habit of the human authors of the Divine Word. The incidental, or as some would call them, the rhetorical allusions made to Nature indicate a manliness and plain straightforwardness in the seeing and telling of natural phenomena vastly better befitting the scientific quality than was the mental tenor of the so-called early naturalists.

IV

Regarding natural phenomena and the habits of animals, credulity and superstition seem to long have gone hand in hand. In this respect the mind of "good Izaak Walton," in its absorption of the vagaries of the early writers on Nature, was as credulous as that of a child. Says he to his 'scholar,' in the *Compleat Angler*, "I shall, for a little confirmation of what I have said, repeat the observation of the Lord Bartas:

"So rotten planks of broken ships do change
To barnacles. Oh, transformation strange!
'Twas first a green tree, then a broken hull,
Lately a mushroom, now a flying gull."

Only think of it! The idea that a broken spar could be transformed into a flock of sea-gulls?

Take the typical bird of passage, the swallow, about which, in the matter of migration, one would suppose the least dispute could be entertained, and on this we find the liveliest controversy has existed. Says the same quaint Izaak Walton: "The trout is thought to eat nothing in the fresh water; and it may be better believed, because it is well known that swallowes, which are not seen to flye in England for six months in the year, but about Michaelmas leave us for a hotter climate; yet some of them, that have been left behind their fellows, have been found (many thousand at a time) in hollow trees, where they have been observed to live and sleep out the whole winter without meat."

V

I think there is a much better way in which to explain how some birds become delinquents. A hundred years ago, and indeed more than a century after Izaak Walton, the Rev. Gilbert White, of Selbourne, England, wrote his delightful letters on natural history. White asserts with Walton his belief that many swallows stay all winter. He does not, however, associate with this idea the vagaries of preceding naturalists. He uses the words 'migrate' of those that go, and 'hide' of the few that in his belief stay. He even discovered a fact which might have opened to him the whole difficulty. After the migration of the swallows had taken place, he noticed a pair still flitting round the church, and even found their nest with unfledged young.

Since then it has been made clear that some swallows do tarry to an unseemly time, a fact true also of other birds. Some accident has destroyed their first nesting and eggs. The desire to continue their species is so strong that such birds have gone to the work of nest-building, egg-laying, and hatching all over again, so that when the time of migrating has come they have had to stay, and risk a journey with their dear young at a time when the perils of the passage to their tropical home have been greatly increased. Naturalists use a Greek word, "storge," meaning that intense affection amounting to a passion of the parent for its callow young.

Excluding perhaps the society birds, that is, those which live in bevvies, as a rule it is certain that this

affection is suddenly quenched in the parent birds at the time of migration. The exceptional cases are, in all probability, young birds, yearlings, such as are caught untimely at work raising their first brood. It is not a rare thing to find the young deserted and dead. These are probably the young of older birds, in whom the "storge" affection is weak, and goes out like the puff of a candle when they hear the twittering calls,—the migration signal,—of the birds not thus encumbered.

VI

A very exciting sound is the migration-call; for it is a summons which the birds cannot resist. With the first touch of the golden on the foliage, a singular twittering is heard in the air, which increases as the flock enlarges. All join in circling high, and every one adds its twitter to the chorus, whatever it may mean. It is really a mazy aerial waltz; and, curiously, on their arrival, they had a home-coming dance in similar style before they settled down to their summer work. This "gathering of the clans" is gone through twice or thrice, in so many days,—when the grand farewell round is performed, and they are off for their southern winter home.

It is true, as we have seen, that there are occasionally stay-behinds, but the instinct of migration, as a fact, may be fairly considered as infallible, and the notion of migratory birds hibernating, as do the bats, is not to be entertained. Some, indeed, have professed to believe that swallows in the autumn suddenly disap-

pear in the mud of the ponds near which they live, as the frogs do, and only come forth, like them, in the spring; but surely such credulity is not worthy serious disputation.

With many birds, it cannot be doubted that food considerations have to do with their migrations as one factor, at least, in the cause. When in the summer the gnats in misty clouds people the air, high up or near the surface of the pond, how the swallows will skim the water, or sail through the upper mists, not snapping their bills as do other insectivorous birds,—but with mouths opened wide, like little glutinous traps, scooping in their tiny prey. Such food can not be depended upon in winter. But other birds are less delicate in diet than the swallows. Hence, something can be done in the matter of coarser insects, and especially in the larvæ and grubs.

VII

That some of our migratory birds are seen with us in the winter is explained, I think, by the agricultural habits of men. Wherever agriculture flourishes, so will insects; and the fields of the husbandman are thus attractive to the birds, who come hither with their sweet voices and good deeds. Now this fact does, I think, in time greatly modify the migration impulse. The bluebird is a frequent visitor of our gardens in winter, though not in large numbers. He now finds his food in the larvæ of those insects which are the pests of the farm; and it is pleasant to watch him,

peeping around palings and under ledges and rails for this food. It could be shown that some birds, considered regularly migratory in the times of Audubon and Wilson, are winter residents now, as the bluebird and some of the warblers, etc.

Nearness to the home of man has to do with some changes of habit in the bird, for it is wonderful how the birds love the companionship of men. Even the Indian recognizes this liking, and puts up his gourd-shell for the purple martin; the plantation hand of the South in like manner sets up a calabash; while in our villages are seen martin-houses, often evincing taste in their construction. But the American swallows formerly kept aloof from men; and, in the far West, the martin still, as of old, builds in hollow trees. It also seems to me that in agricultural communities the number is increasing of the stay-behinds of the migratory birds.

VIII

As respects the time of the migration of the birds, the averment must here be made that the popular judgment on this subject is wrong. "The stork in the heaven knoweth her appointed times; and the turtle and the crane and the swallow observe the time of their coming." How much significance in these beautiful words! In this matter of the moving time, the birds "know,"—they "observe" the time.

And this is not at all the vulgar almanac time of popular tradition; it is the meteorologic time. Whether it be the coming or the going of the birds, it takes

place when all things are ready. Nor is this passage of the birds an automatic movement,—a simple yielding to a blind, non-intellectual impulse. Literally and truly the swallow observes the time of her coming. When these feathered guests arrive, the sky is propitious and Nature's banquet is spread. The winter is past, and the storms are over and gone. The flowers and the singing gladden us together. Suppose the winter to be prolonged, and the spring thus for some days deferred, shall the insectivorous tribe come home hungry,—to find their food locked up beneath the ice? Just as certainly as April precedes May, the antecedent of the coming of the birds is the resurrection of the tiny-winged ones, when the loosening influences of the Pleiades are shed upon the earth. Our common house swallow, though a martin, is not a martinet. Still it does stand on the order of its going. Taught by Him who ordereth events, the birds know the ordinances of heaven.

In a literal sense, then, the birds are meteorologists. Nor is it all instinct, but quite largely observation on which these aerial voyagers rely. A few, like the outriders or scouts of an army, and perhaps urged by excess of the migration impulse, come to inspect the country. Thus it happens that a swallow, or a few of them, arrive when the weather is prematurely fine, even in February, and are glad to get back again to their companions, with a report of the unreadiness of affairs. In this respect, I believe the birds to be for their own communities the true messengers of the situation.

IX

One of my neighbors is a fine old grandame with a stock of folk-lore. To one congratulating her that the robins were coming, so spring was at hand, she said :

"The robins are coming, hey? Well, if they say spring has come, don't believe them. Wait till the cat-bird comes. He never makes a mistake. Robins often do!"

Now it was a little singular that the robins, at least a few, had come. But they disappeared, and a season of snow-storms followed that entailed more suffering for man and beast, than had been similarly experienced for a quarter of a century.

Notes taken by Dr. Abbott, of the five species of swallows known in the Eastern States, show that in a series of years their return varies with the weather. Literally, they observe the time of their coming. The same is true of the wrens and the warblers. As to the hawks and birds of prey, they are actuated differently, and often show themselves at midwinter, seeming to come and go with mere capriciousness. And this warrants my narrating the following:

A sparrow-hawk, shot near my residence in midwinter, had in its crop a compact ball of caterpillars. From this, as they were undigested, some interesting facts were apparent. It had made its meal many hundred miles south of us; and it had accomplished that great journey in at most a very few hours,—for with these birds digestion is rapid. Then came the question, as the bird was not hungry, what induced it to

such an achievement. Perhaps it had got tired of such plebeian fare, and had come north in search of more patrician food.

Nor are the coming and the going of the birds without other adequate causes. Some can be mentioned. There is, first, that parental affection, which, in these creatures, I have said naturalists call the "storge,"—the parental instinct. This is irresistible. They must be about the great business of their being,—the perpetuation of their race.

But why not stay where they are and attend to their family matters. There may be several reasons; it will suffice to instance one, and that one makes change of place an imperative necessity. The callow young of birds, it is known, often need peculiar food; certain insects are necessary for them. How many a muling infant pines away and dies, not for want of food, but for lack of the right kind of food. So the birdies know that their callow young need baby food. The grub, the fly, the grasshopper, etc., each of a kind only found in their northern home; and there only during the time when the bird-babies are crying in their nests.

And another reason is nostalgia. Yea, verily, homesickness; for the swallow and the wren and all those birds that we love do get homesick. They want to come back to the old trysting-place. They want to look again at the old spot dear to them for its family cares. And the young folks, the yearlings, just old enough to get married, they want to see again the place of their nativity; and may be they feel a longing for house-keeping themselves.

But there is another reason yet. It is a mysterious one. It seems to belong to the ethical side of Nature; for Nature, depend upon it, has a moral side. This moral reason is the necessity there is in all things for discipline. Modern science has formulated this in a canon of seeming austerity,—“The survival of the fittest.” Oh, yes!—Nature is a disciplinarian. Her storms harden the rocks, and adamantize the mountains. Her tempests root the giant trees deeper, and strengthen the fiber of those that are young. And it is a discipline of training and nurture, under which the sapling becomes the giant of the forest and defiant of the wintry blasts.

And so it is with the birds. The migration times are their days of discipline. It is the toughening march of life. And some perish by the way,—the silly and the soft; the former rushing to ruin, the latter falling from weakness. At the base of the light-house at Sandy Hook, I have picked up their mangled forms dashed to death against the great lantern. Aye! and by the side of the country church have I seen their broken bodies lying with painful significance, having in the night-time collided with the spire. And the soft and tender, well-nigh dead, with not enough strength to proceed, have I taken up tenderly and succored for the winter in my own home.

After all that is known, or even conjectured, is said, there is much in the migration of birds that is inexplicable. Such capacity of wing—such endurance of travel—such confronting of perils on the way! In the night, and in the foggy day, how do they

keep their course? True, some do perish, getting lost. But these are the exceptions, compared with the entire number.

How does the plump, short-winged quail manage to cross the Mediterranean twice a year? What must be the fatigue of such a journey, with so ordinary a flying outfit? But as to the capacity of flight of the best equipped birds, observation surpasses the old conjectures. The speed in the air of the swallows, generally, is well-nigh incredible. Prince Charles Bonaparte says that a company of these alighted on his ship five hundred miles from the nearest land in one direction, and three hundred in the other.


The common black swift can make two hundred and seventy-six miles in an hour. Our purple swift can even beat that. The chimney swallow can sustain, for a long time, a speed averaging ninety miles an hour. A carrier-pigeon has flown from Paris to Bordeaux, a distance in an air-line of three hundred miles; and our passenger pigeon will actually travel a thousand miles in a day!

The ordeal is terrible, and must prove death to not a few. Happy the little creatures who contrive to play the rôle of the stow-a-way,—who actually steal their passage; for it is an established fact, that the stork, crossing the sea from Europe to Africa, often carries a little warbler on his back. It would be interesting to know where on the way the little passenger got on board of the aerial ship,—whether he made a half or a full fare.

CHAPTER IV.

THE NEST-BUILDING OF BIRDS.

I

O this terrible aerial tramp is over! And the birds are back again to the old summer haunts, welcomed by the earliest flowers. There is a curious sort of bird talk,—are they congratulating one another, or making new acquaintances? Doubtless, both. Mary Howitt tells it well:

“See the birds together,
In this splendid weather,
Worship God, for He is the God of birds as well as men;
And each feathered neighbor
Enters on his labor,
Sparrow, robin, red-pole, finch, the linnet, and the wren.”

The most intense concern of an animal is that which is exhibited in the provision for the continuance of its species. Herein are developed the best qualities of the individual. To provide for the comfort and safety of their young is among animals an intense solicitude. True, there are exceptions,—in some instances this regard is but feebly shown; but

if we rule out the Radiates, which are represented by the sea-star, *Asterias arenicola*, we shall find the above true in all the other great ranks of living forms.

Among the insects and spiders, what surprising ingenuity of nesting, — what peculiar diversities of form and felicitous adaptation to purpose. Even the animals which occupy the sea-shells, — very wonderful nests do many of these voiceless creatures make, which they intrust to the nursing of the rocking and the lullaby of the sea. Among the vertebrates, the reptiles make the simplest nests. We have seen fishes build their nests with as much labor and ingenuity as any bird; and we have also observed that they make clear provision for the three prime necessities of a well-ordered nest, namely, — the concealment of their eggs, rapid incubation, and the comfort or well-being of their young.

II

And not less solicitude is shown by some beasts in this regard. The squirrel builds in the cozy hole of a tree, or in the snug juncture of its branches, bringing together the warm material with a sort of lavishness suggestive of the ancient feather-bed, sleeping in which was synonymous with sinking into a slumberous oblivion. The beaver, in these matters, works with admirable industry and the skill of an engineer. And the muskrat, somewhat in imitation, builds its storied mounds in the marshes with due regard for the possible swelling of the waters.

And there is a small meadow-mouse, *Mus minutus*,

a very midget even among the mice, which in nest-building compels our admiration. With its tiny paws it climbs the smooth stem of an ear of wheat; then the little acrobat with its weight sways the stem until it crosses another upright straw. It then ties the two together with a bit of pliant grass. Then another straw or wheat stem is climbed, and in like manner swayed until it is made to lean against the other two. All three are next secured together. Now the three construct a little derrick, with a crotch at the upper part made by the three diverging straws. In this fork the nest is built. It is a spherical mass, about as big as a small orange, and is so constructed as to intertwine the three supports as if they had grown through the nest. The entrance to this tiny hollow sphere is a small hole on one side. But no prying eye may peep into the little retreat. The limp material is so judiciously arranged that the orifice easily enlarges as the little tenant goes in, and closes up after it has entered. What a cozy little home for these wee folk and their baby mouselings! How warm and dry, and so cunningly devised! The hawk with all its keenness, and the wise owl with his wonderful eyes, never think to look at that. And even the snake crawls right under the tripod, and goes on its way with no suspicion. So Mousie, high up on its wheaten stems, cares not a straw for any of them.

III

But, taken as a whole, the birds hold pre-eminence in this line of architecture. And what an admirable

knowledge of the situation they seem to have! To be sure there are plenty of them that are mere bunglers at their trade. Still, for perseverance, skill in structure, and nice adjustment to the situation, commend us to the birds as nest-builders.

Some birds build their nest open and on the ground. As a rule it will be found that such are of dull color, and with some likeness to the earth, or spot selected, so that it is difficult to see them, even when right before our eyes; and such birds as the killdeer, for instance, if thus discovered, will sham some injury, and go off from the nest, running into the grass, and limping as if a limb was hurt; thus in many cases drawing a person away from the nest in his vain efforts to capture the bird.

Birds with conspicuous colors resort to other stratagems,—they will build nests for concealment or disguise. The pretty humming-bird makes a tiny nest so covered with moss as to resemble its own plumage; and appearing, as it sits upon a branch like a parasitic tuft of lichen on a tree. The hang-bird, clad in black velvet and bright gold, the gay armoreal bearings of my Lord Baltimore, weaves a bag pendant to the outer branches of a tree. It is open at the top, but when the bird enters to sit upon her eggs, the mouth of the sac-like nest draws together, and so conceals the occupant. This trick of deception by way of ingeniously constructed nests is practiced by many of the conspicuously colored birds, such as some woodpeckers, the kingfishers, the warblers, and others.

IV

A learned professor undertakes to classify birds by their peculiarities in nest-building. But it is not a success, for the nests of birds are not built upon the special 'hard and fast' lines, which former naturalists supposed. But the scientist's work distinguishes not less than twelve typical kinds of nests.

The eagles and birds of that ilk, the fish-hawks for instance, build great structures of sticks, and even large branches, in trees, and upon rocks. These are so immense that many smaller birds take advantage of them, and nest in the interstices at the sides. These great piles are almost flat at the top, so that the eggs are in danger of rolling off. These structures the scientist calls "platform nests."

Every one is familiar with the bank-swallow, which pierces or burrows deeply into the bank, and there lays its eggs. These birds, with others of more or less similar habits, are called the "miners." Among the birds so classed it is easy to see that some are parasites, for while some owls are true burrowers in the ground, there are those which occupy the holes of the prairie dogs.

The "mound-builders" of Australia are thus made to form a division. These birds make great conical piles of earth, with leaves inside, among which the eggs are deposited and are hatched by the heat of the decomposing vegetation.

Others, which build either in part or entirely of mud or clay, are called the "mason-birds,"—such as

the swallows, and even our own robin, which uses quite considerable mud in making its nest.

The birds, which—like the woodpeckers—literally hew out holes in the trees for their nests, are called “carpenters.” These hewers of wood also include the curious toucans of South America and some of our small birds. The “basket-makers” show great intelligence and construct really beautiful nests. The vireos represent these artisans. I saw a nest built by a vireo, which was not only beautiful but remarkable for its persevering ingenuity. Just as the nest was finished, a sneaking cow-bird came along, and put in it her egg. Now the cup-shaped nest was such that the building bird could not get under the egg to bounce it out, so it built another story; and just as that was finished, another cow-bird came and dropped into it her parasitic egg. Unable to expel it, the bird went to work and built another story, and in this third story she raised her own family in peace; but the immured eggs below perished.

The “weavers” will sew together the edges of a leaf, sometimes two, making a purse. The “cementers,” represented by the swallows, make their nests adhering to a wall or inside a chimney. These birds, from the exuding of certain glands each side of the head, and mixed with saliva, make a natural glue with which their nests are secured in place.

The barn-swallows, in the vicinity of men, are fast changing the forms of their nests. They used to be bottle-shaped,—pretty much as if a black bottle were stuck by the bottom under the eaves. Now they are often open at the top.

V

Our Church Swallows.

As vividly as if it were but yesterday,—though it is an event of many years ago,—comes up the recollection of the experience of a pair of barn-swallows, *Hirundo horreorum*. The two birds had determined to build a nest in the porch of our church. My little daughter was the first to detect the fact, and every day she went to see how the birdies were getting along. How the child-mind watched and wondered,—to her their ways were marvelous. How they brought the mud, or more properly the bird-mortar. How rapidly they worked. Now came the male, who emptied and spread his little hodful of cement. Then came the female, who added hers. And so fast did one succeed each other, that it seemed like the boys in winter on the pond, who would slide by in rapid succession, filling in each his place, and crying out, “Keep the pot a-boiling!”

Thus it went on for three days, when the mud-walls were nearly up. Then began the work on the interior, the lining with hair and fine downy feathers. Now came the full gushing of the young child’s delight. The wind had caught up a little feather from the barn-yard, and whirled it into the air. The male swallow saw it. There was a little twitter. Doubtless in the bird language it signified, “Quite the thing!” And the bird caught it just as easy as her brother caught his ball. Then the child took a hint. Having

collected some feathers, she let them go one by one out of the window, and, to her intense delight, occasionally one would be caught by the bird.

The nest was probably about completed when Saturday evening closed in. It was followed by a beautiful Sabbath morning, but one which almost broke our little damsel's heart. Pray, how can people who work in mortar avoid making dirt? These bird-builders had badly spotted the floor of the porch. To his intense disgust, the old sexton beheld it all and was not slow to guess the cause. With a long pole he knocked the nest down, then swept the porch. How that child did weep for this calamity to the birdies. She even gave vent to some temper, and called the sexton a naughty man.

At breakfast the next morning, the child told us all with evident joy that the wee birdies had begun again to build their nest, and in the same spot, too. What a busy week it was for those swallows. On Saturday evening the nest again seemed finished. But Sabbath morning brought the same disaster. Somewhat petulant, the sexton brought the long pole into requisition once more. The child was now painfully exercised, and it cost us all considerable effort to quiet her agitation.

The next day she astonished us by saying that the birdies had begun to build again. It was true. What splendid courage! What genuine pluck! How the dear little fellows did work to repair the disaster. It was a real strain, for the inducement had become extraordinary. There were five pretty white

eggs, about which they were getting quite anxious. By Saturday evening all was finished. The nest was ready for occupancy. The sun went down beautifully as those tired little workers went to rest.

In the dusk of evening a new worker came. Keeping her own counsel, the little maiden appeared as noiselessly as possible with water, broom, and scrubbing-brush. No one knew what had become of the child, but when she came home, she said that she guessed she had the church steps so clean that the sexton could not see any dirt this time. So it was. And the sexton quite forgot all about it; and the swallows raised their callow brood in peace. I took the child up to a small opening over the porch, through which she was able to see the pretty eggs, and afterwards the little birds. Next year, 'daughter's birdies,' as we called them, came back, and again built in the same spot, and they again received the attention of their child-protector.

VI

Perhaps the most ingenious nest-builders of our home birds are the orioles; and of these the Baltimore oriole, or golden robin, *Icterus Baltimore*, takes the palm. Going out to the extreme end of the far-reaching branch of an elm, or some other wide-spreading tree, it manages to draw together with some textile substance, usually a bit of cord, two pliant, diverging twigs. The nest, from that spot begun, and thus suspended, is a long, deep, pendulous bag or purse. There can be no doubt that proximity to

civilization has greatly affected the nest architecture of these birds. The amount of grocer's twine sometimes used in the construction of a single nest is wonderful. This is chiefly picked up in the vicinity of houses. Sometimes shreds of rags are woven in, and occasionally a bit of elegant lace purloined from a window or clothes-line.

It was surely a departure in the architecture of bridges when men turned from stone and timber to iron wire. And that must have been a memorable innovation in nesting when a pair of vain orioles, as I once observed, made up their minds to build their nest of golden wire. They had alighted on an old military epaulet. With untiring art the two set to work to unweave the delicate gold wire; and from this they fashioned the frame-work of the nest.

VII

Certain points of design in oriole nest-making may be stated. First, security against arboreal enemies. No animal will possibly venture out on the slender extremity whence is suspended this purse-like nest. Thus the squirrel, opossum, and snake can not reach the home of the Baltimore oriole. This is, in a word, the security of the situation.

A second object is complete concealment. In a wide or open-topped nest, how very easy would it be for the hawk to see these showy birds, gleaming in jet black, ruddy orange, and shiny gold. The typical oriole's nest is really purse-like, a little open at the top; but when the bird settles in the nest, the added

weight causes it to be drawn together at the rim. In this wise is the golden robin concealed, much as the golden dollars were in the deep purses of our fathers.

But to us this deep, warm nest seems intended also for the special comfort of the young. The golden robin is extremely sensitive to a falling temperature, and migrates southward very early. The young, so susceptible, are thus comfortably housed against the cold of night. The golden orioles are subtropical in their nature, being among the earliest to leave for the south and among the late ones to return.

It is becoming notably apparent that the birds are learning how to utilize the surroundings, and even to practice economy of labor. Not as a spendthrift, but in another sense, the oriole building in the elms of our cities is becoming prodigiously careless, and confidentially indifferent about the state of his purse. In the case of these urban birds, the nest is generally made to serve less the purpose of concealment than it is with those of their kindred who build farther away from the busy haunts of men. The reason is plain. The *Raptores*, or carnivorous birds, generally, and the bird-hawks especially, are shy of the places where men congregate.

VIII

There is a less pretentious and more homely appeared bird, a near cousin to the golden robin. This is the orchard oriole, *Icterus spurius*. It builds a decidedly neater though a plainer nest. I remember one built in a cherry-tree. It lacked the shrewd selection

of position shown by its gayer cousin, and was within easy reach. It was a very plain, tidy, cylindric sac, and was safely hung between two little branches. The purse itself was a homogeneous structure, composed entirely of flexible grass, and most compactly woven. After completing the nest, the birds took a day or two of rest. Then they began the egg-laying.

Then the nest, which was proof against larger birds and animals, proved to be no protection from the enmity of a petty feathered foe; for the completion of the nest was at once followed by the persistent persecution of a pair of wrens who were raising their young in a box not far away. After depositing her first egg, and while the lady oriole in a copse near by was receiving the congratulations of her husband, the wicked little house-wrens made an assault on the nest. One of them went to the bottom, spread out its wings, and so got itself under the egg, and, raising it up, cast it out. This was repeated, as each new egg was laid, until wearied out, the poor orioles had to retire in disgust, thus leaving their little tormentors masters of the field.

Speaking of the house-wren, *Anorthura troglodytes*, recalls an incident which illustrates the readiness of birds to embrace an opportunity. This readiness, like the human disposition to catch at a bargain, is sometimes followed by serious consequences. A piece of sheep-skin, with the wool on, was used for a door-mat. It had become soft and flabby from a heavy rain. The good woman threw it on the grape-trellis to dry. The skin rolled up under the heat of the sun. This

was observed by a pair of house-wrens, who regarded it as a splendid 'find,' and soon had a nest built in the stiff roll. Alas! as a matter of dependence for keeping the house a-going, this sheep-skin proved as worthless as some others. A black cloud darkened the sky,—a drenching rain set in,—the skin unrolled, and the nest was dropped on the ground. The birdies looked amazed.

Out came the sun again; but the wrens seemed undecided as to their course. The next morning the skin had dried and had rolled up again, and the birds actually remade their nest in the same place. But soon after this was done, the same disaster was repeated. It was, however, followed up by the birds trying their fortune again. Once more came the rain and the uncurling of the mat, when the distressed birds gave up in despair.

IX

I was once highly interested in a pair of robins who were building a nest. They had got early to work, and had shown their good judgment in selecting a tree in a cluster within a few feet from the house of a sea-captain, near the shore. It was "a most eligible site." The building went on finely. The male was loving to his mate, and seemed devout to the Great One who even careth for birds; for each dawn he delivered a genuine song of melodious praise before the labor began, and also at eventide when the day's work was done. A pair of unsocial and songless king-birds kept up an unwelcome proximity, and inquisi-

tively eyed their progress. With no breath of suspicion the robins went on minding their own business.

At last their bird home was completed, and the pair went off for a little relaxation before going seriously at housekeeping. Instantly the kingbirds took possession. It was in vain that the robins claimed their right to the home at their return. The tyrant-robbers did not regard robins' rights as of a sort which they were bound to respect, and really punished the robins for asserting the contrary. With an air of regal indolence the kingbirds had watched their industrious neighbors, and by dint of superior prowess had taken easy possession. So there is to be found even among the birds a species of Carlyleian righteousness. Indeed, the poor robins, just for disputing the doctrine that might makes right, got a drubbing which brought them within an inch of their precious lives.

X

I have instanced the feigning of lameness by the killdeer, in order to draw an intruder away from her young. It is also certain that birds are capable of deception, even in nesting. A large nest was once brought me, which I was able to identify as that of a quail. It was made of grass, somewhat loosely, and had a touch of the bower style about it, the material being made to arch over the entrance. The fine point in the architecture was its well-attempted delusion; for stems of grass, with the spray or heads entire, were broken off, and stuck judiciously in and about the nest, so as to give it the appearance of a tuft of dead

grass which had passed through the winter. Then the distich occurred to my mind,—

“Oh, what a tangled web we weave,
When first we practice to deceive.”

But that is a piece of casuistry which the birds do not bother themselves about. If the robber-hawk comes around, they are glad enough to have him believe that the folks are all away.

Many a good moral, however, can be drawn from the nesting of the birds. Like the housekeeping of other folks, much depends on a good understanding with one another. I have seen a male bird bring a straw to the female when building the nest. It was too long, and could not be got in. The female plainly told him so. What then? The bird took the straw in its beak precisely at the center, then flew with a jerk into the air. This bent the straw at the middle, and brought both ends together. Now it was just right, and the female packed it snugly in its place.

Again, I have seen the female, after trying in vain to adjust something which the male had brought, drop it pettishly over the side of the nest, and with an air that seemed to say, “You stupid, why don’t you understand what I want?” go and look up that which she desired. There are also thriftless good-for-nothings among the birds; those which tire out soon, and break down easily on the ordinary labors incident to bird-life. These will, in comparison with others of their own species, make slouchy nests, little dreaming that their bad habits become a heritage for their offspring.


XI

But I can not leave this matter of the nest-building of the birds until I have convinced my readers that reason has more to do with the work than instinct. If one should look through the collections of bird's nests, in some old college museum in Europe, he would find a globular structure with a hole at one side, as representing the typical nest of the house-martin for all time. Probably the object of the builder was to protect the little ones from enemies. But this structure had its disadvantages. When the birds attained some size the lack of ventilation made it like an oven. Then, only one bird could be at the hole at a time for feeding,—thus the weaklings were crowded to the wall.

At last, a new light broke upon a pair of knowing birds. What's the good of always doing as our ancestors have done? The tree birds don't swelter their young ones to death. So with the courage of their convictions, this sensible pair started an 'awful innovation' in the martin camp. They built a deep, cup-like nest, open at the top. Oh, how comfortable the little martins were,—and how easy it was to feed them all fairly and well. Why, the new thing worked like a charm! And the 'innovation' was adopted by the entire tribe. Now, though it is but about sixty years ago, the martins of the Old World have caught on to the idea. The curious fact is, that the globular martin-nests in the old museums have assumed a value never anticipated, as showing martin architecture in "the good old foggy days that used to be."

CHAPTER V.

JUNCO, THE EASTERN SNOW-BIRD.

OW pleasant it is to be able, even in a slight degree, to share with one's readers the happiness enjoyed in observations like those given in the following narrative. When the "mind's-eye" sees Nature in her winning ways, and tender moods, the vision is well-nigh ecstatic, and the contemplation ensuing is purifying and exalting.

For New Jersey, so severe was the winter of 1881 that appeal is made to "the oldest inhabitant" to adduce a similar experience. After a long illness, in which I had been almost at "death's-door," recovery had happily begun, and I was allowed, late in January, to sit in an easy-chair at my study window. The joy was almost sensuous as I took in the wintry scene. From time to time I jotted down my thoughts, and this chapter is mainly a transcript from such notes taken on the spot.

I

Notwithstanding the pure white of her "wrap," Nature in her snowy dishabille is not altogether lovely.

In truth, many of her admirers, with a shiver, withdraw from their open-air converse, preferring a fireside communion. It is all very well to talk of coasting, and skating, and tobogganing, and to go into ecstasies over "the tintinnabulation of the bells." Leaving out the pangs of poverty, what shall be said of the keen suffering attendant on out-of-door industry, when exposure is so pitiless on man and beast; empurpling the flesh so hideously, and making the breath visible and tangible like smoke?

And yet this general nakedness is not without advantage of a weird sort to the true student of Nature, because of a certain transparency which whets the faculties, imparting edge to curiosity and precision to observation. All things seem open. The very atmosphere is in sympathy with the naked truth,—and even the trees, from bole to spray, become on a sudden crystalline. I am at a loss for the right similitude. I would liken them to immense white corals, but it is not a chalky whiteness. Ah! the sunbeams show them up. They are agleam with prismatic light: I see now. They are masses of frosted arboreal silver. As for my evergreens, they look like gigantic cones of boreal breath congealed.

There is a mystical hilarity in the air. The sight is sharper and the hearing keener, and both are further reaching. This Sunday morning, January 30, the air is keen, bright, and still, and the timbre of our village church bells seems peculiarly fresh, as they peal forth their summons in the pure frosty breath of their brazen throats. Though walking briskly, the church-

goer looks more thoughtful. He feels himself possessed of an almost mysterious enlargement and refinement of the senses; for he hears with startling distinctness the church bell of a hamlet fully five miles away to the east, and with equal clearness his ears take in the sound of another church bell from a village as far away to the west. It is observable, too, that both ring in the same tone,—but that the ringing at the east is set a full octave higher than that at the west.

II

“He was transfigured before them.” What a text would that be for churchly exposition to-day! How imposing upon the senses must that manifestation of the supersensuousness of the divine-human have been. It is not very long ago since I was withdrawn from the fields, and for that time the world had been shut from my view. Then the golden rods, and the blue asters were vying in amiable rivalry; and the vision of that autumnal glory of the imperial maples went with the sick dreamer to his bed. To-day, oh, the sweet privilege! I may look from my window on the fields again. But what a transformation! Of the green, and the blue, and the gold, and the scarlet, not a vestige. All is white, the very immaculateness of whiteness. The ground, the fences, the trees, every thing in white robes “so as no fuller on earth could white them.” Yonder cedars by the road stand like satin-gowned damsels in a row.

“’Tis winter, yet there is no sound
Along the air
Of winds upon their battle-ground,
But gently there,
The snow is falling,—all around
How fair—how fair!

“The jocund fields would masquerade;
Fantastic scene!
Tree, shrub, and lawn, and lonely glade
Have cast their green,
And joined the revel, all arrayed
So white and clean.

“E’en the old posts that hold the bars
And the old gate,
Forgetful of their wintry wars,
And age sedate,
High-capped, and plumed like white hussars,
Stand there in state.

“The drifts are hanging by the sill,
The eaves, the door;
The hay-stack has become a hill;
All covered o’er
The wagon, loaded for the mill
The eve before.

“Maria brings the water-pail,
But where’s the well!
Like magic of a fairy tale,
Most strange to tell,

All vanished, curb, and crank, and rail.
How deep it fell!

“Now tiny snow-birds venture nigh
From copse and spray
(Sweet strangers! with the winter’s sky
To pass away;)
And gather crumbs in full supply,
For all the day.”

III

How obliging has Nature become, that she allows a convalescent to interview her from his study windows. Yes, and her coyness breaks down, too, for she lets out some of the peculiar ways of her winter birds. After many hours of storm, the snow stops falling and a cold, clear blue sky opens overhead. A flock of snow-birds has come. They seem to be the living feathery fringe on the skirts of the snow-storm. And what a relief these pretty birds impart! This nival covering is not a shroud to conceal the dead, but a warm comforter spread over earth’s slumbering forces by that Good Hand “which giveth snow like wool.”

Within easy view from my library windows is a spot in the headland of the old orchard, where last autumn grew a tall *Phytolacca decandra*, known in the folk-lore as poke-weed, garget, pigeon-berry, and even other names, each locality having its own. Such was the lusty growth of this one self-sown plant, and the extraordinary yield of its juicy, purple berries, that I

furnished at the time an account of it in a botanical magazine. Thus it was that my study of the plant had saved it from being destroyed, but I little dreamed of the reward in store for my care.

And now, from under the deep snow, the tip of the dead plant is but just exposed, and that is hint enough to the little fellows that the dried currant-like berries of the poke-weed are to be found in a natural cache underneath. How good the birds are at prospecting; and how prompt in taking advantage of discovery. Hunger is not only a sauce to the appetite, but it is also a sharpener of the wits. The species is *Junco hyemalis*, the Eastern snow-bird.

Birds, like men, have different ways of using the same tools. We laugh at the Oriental because he pulls the plane to him; and he smiles as we push it from us. So with the *Rasores*,—the birds represented by our domestic fowls,—they are scratchers, and pull their toes. But these birds are from India, hence with Mongolian tendencies. Now *Junco* is of a different race,—he cannot hoe, for digging is his gift. He pushes his toes. Just see, how they do dig down into the snow! Dig? Yes, though very un-birdlike, that is the right word, for it is altogether unlike scratching. Its method of mining, for a bird, seems to me to be original. Our *Junco hyemalis* is a hopper, not a runner.

I am almost afraid to attempt a description. The bird stiffens out its toes, then makes a jumping shove, forward and upward, thus lifting and flirting the snow. The movement is of the whole body, and the action

is scooping, not unlike that of a ditcher. It is not a shuffling motion, for it demands too much dexterity, but a true shoveling movement. Like the post-hole digger's shovel, with its short blade and long handle, the middle toe of Junco is shorter than its tarsus.

Soon this natural cache is exhausted, and a deep, wide excavation, with a small entrance, is the result of their patient digging. It is truly a snow cavern. The birds soon learn to feed from a supply put at their service on the window-sill. Finding so good a commissariat, they sojourn with us a number of days,—the little bevy of not more than seven, keeping always together, as if by a family compact. Indeed, this is a pretty domestic feature of our Eastern snow-bird.

Some twenty-five feet from my windows is a beautiful copse of *Thuja occidentalis*, or arbor vitæ, its object being to screen an outhouse from the public road. The trees are high and the foliage dense, and each tree hugs its companion lovingly, so that all seem but as one. Hither come our little birds when the day's foraging is done—this is their nightly “covert from storm and rain;” while, strange to tell, their snow dug-out is made to serve as a cosy asylum from the cutting wind by day.

I have my own theory why Junco should occupy the ground-floor by day and an upper story by night; and it seems to me to come of an inflexible circumspection begotten of “the canker of a calm world.” But what canker in these bird minds, pray,—which neither sow nor reap,—which neither have storehouse

nor barn, and God feedeth them? Ah, friend, the bird-canker comes of no distrust of the Great Father—but fear of man and beast. By day my Juncos occupy the snow dug-out with an eye upon Grimalkin; at night asleep, there is more safety in the trees.

IV

A friend calls to inquire of my health, and I bid him in. He is a character, this Captain Ira, the commander of an oyster vessel. He was in the former days a school-master in the Pines; but has outgrown all the conventionalisms of the school-house, and some of its learning too. He is pleased to be called an inchoate philosopher.

It is doubtful if the good man has one clear scientific conception. He has just been reading in his local paper about “the Trenton gravels,”—that they were due to a great northern glacier, which also had pushed the Esquimaux down south.

He notices my interest in the snow-birds, and asks their scientific name. Having answered his question, I direct his attention to their snow-cave under the poke-weed. I am taken aback by the callow philosopher, for he pronounces it a probable instance of mimicry inherited from a very ancient Junco, which got the idea from that glacial Esquimaux who made snow dug-outs in Central New Jersey, at that remote time when the great glacier was depositing the gravels on the New Jersey flats.

“Captain Ira,”—I observe,—“any theory is passable

if you have facts enough to build upon. But pray, are you not paying out too freely on the glacial line?"

The captain answers my inquiry with another, and asks me to repeat "the science name" of the snow-bird.

"*Junco hyemalis*," I reply, adding that the specific name wintry is very sensible, but that the first name, though given it by an eminent man in Europe, is without any meaning to my mind. But the Captain sees it differently. He thinks the name is jolly, and begins jingling together "Juncimo, Eskimo," declaring that there is a glacial connection, and even proposes to "argue that point," which offer is declined. Nor does my counter suggestion mollify matters, — that snow-house building requires some architectural skill. I even urge the fact of its form, a segment of a sphere, and further that as a true surbased dome, this igloo of these Innuits greatly antedates that famous dome of the Parthenon, yet is less ancient than the dug-out domiciles made by mollusks, insects, birds and beasts.

V

At last Captain Ira leaves. He is a kind-hearted but opinionated man; or, as the neighbors have it, "a good deal set in his notions." It is a relief that I am once more alone. I want to watch my snow-birds. They have left their snow dug-out, and gone for the night into the snow-covered evergreens, for the sun has begun sinking in the west.

Gazing on the white expanse, I think how bounteous are Nature's compensations, "who giveth snow

like wool." How these little winter visitors have entertained me, and "without the snow, no snow-birds." And now, as if another quilt must be spread for earth's imbedding, the flaky crystals are again falling. How they adhere to every thing, enrobing all with jewels,—

"Every pine, and fir, and hemlock,
Wear ermine too deep for an earl,
And the poorest twig on the elm-tree
Is ridged inch deep with pearl."


But the flakes fall closely, and the twilight is almost spent,—

"The white drift piles the window frame,
Straight through the glass the clothes-line posts
Look in like tall and sheeted ghosts."

CHAPTER VI.

THE EASTERN SNOW-BIRD.—CONTINUED.

I

 HERE are always to be found the 'ne'er-do-weels' among both birds and men. The survivors generally are such as anticipate the untoward times. We hear of the imported sparrows stuffing their boxes to exclude the cold; and in an elm-tree in the village is a nest which they have made of coarse materials, almost large enough for a hawk, the simple carrying labor for which must have been prodigious. But among these little folk, this providing for a rainy day is exceptional. It does not indicate the tribal habit so much as the individual capacity. I have not seen any other Juncos improvise a snow dug-out into a shelter from the storm. With many birds it is a common practice to avail themselves of the handiwork of man.

My daily paper reads: "During the recent cold weather a flock of snow-birds took refuge from the cold in Margaret English's barn at Smith's Landing, and became very tame." I trust that the good madam, like a pearl of a woman, gave the wee

birdies food. "Became very tame!" This tameness of the snow-bird is only in winter born, and comes of pitiless pinching pain. The food supply withdrawn, they come timidly to our doors. And how delightful it is that one may turn his window-sill into an almonry for the winter birds,—to us and them so much happiness at such small cost. What goes on in these little birdies' brains we may not find out; yet it would be delightful to know if gratitude were there, and may be homage, too; and if, in view of the banquet spread them by our hands, they look to us as being unto them their Great, and Good, and Bountiful. Well, all this is the poor man's privilege, despite that greed of opulence—

"Whose talons grasp the blessings of the world."

II

Our Eastern snow-bird does not hold together long in large flocks, but likes to divide into small bevvies, or family groups. Whatever it is, whether conjugal, parental or filial, or all combined—there certainly is affection manifest in it.

The group I am interviewing numbers seven individuals; whether they are blood-kin I cannot affirm, but I take it for granted and feed them as a necessitous family. But see! Is a good deed contagious? These tiny things have caught the knack of charity among themselves! There is a poor snow-bird on a rail; something ails it, for a stalwart Junco is carrying food, and feeding it with nursely tenderness.

What a gracious bird! I dare say, a Christian bird; for is he not obeying the injunction of the Apostle, — “Be kindly affectioned one to another, with brotherly love!”

And so through the whole live-long day labors this ministrant of mercy. To and fro goes the noble fellow, until the hunger of its needy ward is appeased. This ward is in some way lame of wing; and its benefactor knows all about it. But this in a little birdie's noddle is a good deal; for a double question is under consideration, namely, hunger and safety, demanding foresight and strategy. If it would make an effort and take the risk, the crippled bird could go to the window-sill and help itself; for it has managed to keep up with the family flock, though with painful effort. This fact lightens up the whole case. The snow-bird is very cautious. Even the stalwarts come to the place of feeding, not without circumspection and some distrust, being very watchful for Grimalkin and every other danger; hence this thoughtful commiseration, — that crippled bird must be allowed a position “surveying vantage.” We have it from the professional bird-trapper, that “snow-birds are not easy to catch.”

Let these snow-birds have enough food, and there is a twittering gayety pleasant to see, but giving occasion for thought, as it is not the ‘let-loose,’ rollicking kind of bird play one sometimes observes. There is a reserve,—an habitual, or what has become an instinctive, circumspection. Thus the snow-bird's life is not dissimilar from that of Captain John Smith of Virginia.

After he had escaped death through the intercession of Pocahontas, he twittered out his experiences in rhyming verses:

“They say he bore a pleasant show,
But sure his heart was sad;
For who can pleasant be, and rest,
That lives in fear and dread;
And having life suspected, doth
It still suspected lead.”

To the poor snow-bird almost every one is a Powhatan seeking its life, without “the king’s dearest daughter” to intercede.

III

Our *Junco hyemalis* has some really good qualities; he is social, and can be generous on occasion, and if clannish, he is at least peaceably minded in his own family circle. With encouragement, I think the trick of familiarity would grow upon him, and he might become a welcome window bird in winter, like the English Redbreast, sitting on the sill and pecking at the pane.

As a cage bird Junco is cheerful, and bears a good reputation. He is reported to us, however, as impatient of restraint when the warm season comes; and I think that I have seen his best qualities in his winter freedom. He is winsome, and has a trace of humor,—an unconscious serenity of the Mark Tapley order, for let the clime be almost arctic, so the rations hold out, he is gay and wide-awake. His plumage, too, is that of a well-conditioned bird, so trim and smooth and bright.

But here comes one of those proletarian summer bickerers,—he of the bad reputation, “who killed Cock Robin.” Poor sparrow! I do feel for him, with his fluffy outspread like a little impish owl; which “for all his feathers is acold.” He moves squattingly, so as to hug his frozen toes. The snow-birds let him to their store and welcome. Having fed well, they feel too good to be mean or malevolent, and are enjoying a sort of post-prandial pop-game, hopping in and out of their little snow cavern.

But whom have we here? The Carolina wax-wing, close cousin to that big Bohemian; he is the only one of his tribe that has been along this winter. Despite a trace of the ‘stuck-up,’ there is something almost ducal in his coronal uprightness. Nor is he at all crestfallen at the unwonted inclemency; in fact, he is rather majestic in a toploftical way, and deigns, through a two minutes’ patronage, to look at the snow-bird’s frolic, and then leaves. Is it that he may not seem to countenance any frivolity at such a pinching time as this?

A very practical fellow now appears in the apple-tree near my window, a hairy woodpecker. He makes himself heard in the bird world; but then when he does so, it always means work, and is strictly in the line of his own proper vocation. To hear him, one might suppose it was the hammer of some delicate mechanician. Let us listen! He will lose no time. He has gone to the old apple-tree, and he begins business at once, pegging away for dear life after that larval Saperda. How he makes the chips fly,

and breaks the cold stillness of the air with his rat-ta-tat-tat. All these are living episodes.

But that poor moribund sparrow, he is so forlorn! And well he may be, for my boy reports that several of his fellows have just succumbed to the pitiless cold, and are lying stark-stiff in the barn-yard. The truth told, the winter is exceptionally severe,—reports from over thirty observers in our county declare that two-thirds of the quails have perished, despite the efforts to feed them; and our village taxidermist has set up a number of “new birds,” brought him by farmers who found them dead, and who say that many small birds have died of starvation. Well, what about Junco? Oh! he’s become jocose; at least, he seems to twitter: “This is none of my business.” But then our Junco can be jolly under trying circumstances, and we must not write him down as going to the bad, simply because he trends a little on the heartless ways of men.

IV

As hinted before, I think the snow-bird has capacities for human attachments. I saw one which had entered a friend’s house and had domiciled for the winter among the plants that filled the bay window. Over these hung a canary cage, the seed spilling from which fell into the flower pots, and were ample for Junco’s wants. Truly the lines had fallen to him in pleasant places! Amid blooming flowers, and with food in plenty, what did he know of winter? The

bird seemed entirely at home, often leaving the window garden for the wider range of the sitting room. With the first snow of the winter, he had entered at an open door of his own accord; and when the spring came he took his departure in the same way.

I find myself so much interested by an account of a caged snow-bird, in a letter from a friend, that I cannot refrain from giving an extract: "In my aviary I have kept from eighteen to twenty denizens during the past winter. I had no canary, and only one snow-bird, *Junco hyemalis*, which I obtained from a bird-dealer early in the winter. I kept him two months and I think I had him just two months too long! Snow-birds are regularly trapped and offered for sale in New York, on account of their frolicsome ways, and not because they are songsters. In song they are much inferior to our purple finch, song sparrow, or yellow-bird, yet their song is more varied than that of the lesser red-poll. They also sing at night, and quite frequently when domesticated. His note at night is more of a monotonous character, amounting to just a whirring r-r-r-r-r—r-r-r-r-r—r-r-r-r, and so on, reminding one of a tree-toad more than any thing else.

"Not being very timid, he naturally became very tame. He was rather too much of a pugnacious character for a well-kept aviary, and to my sorrow I must frankly confess that when I took him to one of the Central Park menagerie aviaries, it was with no great reluctance that I parted with him. Before his banishment he had destroyed the plumage of many a fine bird for me. In putting a new bird in my

aviary, it is the custom to give him a hazing, like any other freshman of a higher order of beings; yet that snow-bird was not molested by any one, which, no doubt, made him bolder. I have in my aviary an African weaver-bird and a Japanese robin, both of which are not to be trifled with, and generally are very aggressive themselves; yet he chased them in pairs, as he did also the indigo bunting, yellow-bird, nonpareil, and the smaller birds of the finch tribe.

“He ate every kind of food that he saw the others eat. When satiated he would get into a seed cup and throw out the larger seed, such as unhulled rice. He would then flirt with his feet, in an uplifting way, not like a chicken,—and in a few minutes empty a cup of seed. After a while I placed a small flat wooden plant label across the cup, held in place by the wire of the cage, to prevent him throwing out seed. He would hop along the top of it with the greatest delight, producing well-measured sounds, by one end of the label being raised, and then suddenly brought down with a sharp clap. While thus performing for minutes at a time, he often uttered low notes and seemed to keep perfect time with his feet.”

So it turned out that the little snow-bird was the coquinet, the clever little rascal of the establishment. Junco puts on airs; and though an imposing character was not to be imposed upon himself. I think his ability was exceptional. Perhaps he was a genius in his way; and being too roguishly cute for the general comfort, he must needs go into exile as a disturber of the peace.

V

My friend further informs me that quite a trade is carried on in New York exporting the snow-bird, *Junco hyemalis*, to Europe, and what seems strange is the fact that the snow-bunting, *Plectrophanes nivalis*, is imported by us from Europe. But I must again quote my friend's letters. He says that "Reiche Brothers, of New York, sometimes take a lot of snow-birds to Europe, more for experiment than to fill orders." He knows a small dealer, who is also a trapper and fowler, and who watches the habits of our birds that are in demand very closely.

This birdman declares that of all birds the snow-bird is certainly most difficult to catch, notwithstanding the presence of great numbers in the field. No kind of food, or call-note, will enchant this bird, or bring him with any kind of calculation under the fowler's devices. He claims that most of the snow-birds caught are accidental catches, and that it happens when fowlers set limed rods for *other birds*! Out of a hundred birds thus caught only a few are snow-birds, and oftener none at all. They will not enter a trap cage. He says that the bird is in fair demand, and that he could sell more than he catches. He says he has kept him through summer very well, and that he is certainly a most hardy cage bird. He takes many to Europe on a single trip, and never lost a single specimen *in transitu*, and he often makes these transatlantic journeys. On one of them he had forty snow-birds in one cage, and landed all safely in Ger-

many, finding a market for them in Berlin without any difficulty.

It would seem then that our snow-bird is much hardier than the imported sparrow, which is for us a German infliction, and not English. The first consignment of the European sparrow was made from Berlin. Two hundred birds were shipped from that city to Washington, and only six survived the voyage. These were immediately set loose in the capital of the nation. The object of the experiment was to rid the trees in the parks of worms. The experiment was a success, but at what a cost!

VI

As to the difficulty in catching the snow-bird, it all comes of circumspection begotten with a just suspicion of its danger in contiguity with man. In the early government expeditions in the far West, where the snow-bird, *Junco Oregonis*, prevails, the bird was easily captured. Dr. Coues tells of encamping on the plains, and the snow-birds coming to the tents, and picking up eagerly the spilled grain. There was one empty tent, and this he improvised into a bird-trap. Attaching a string to the flap at the entrance, he scattered grain inside, then standing off he let the birds go in, when the string was pulled the flap closed, and a number of them were caught.

While I sit by the window and watch my snow-bird colony a strange story comes to me from our village. Just after the gas was lighted yesterday, a snow-white snow-bird flew into the ticket office of our station.

It was an albino. The poor bewildered thing sailed round the room close to the ceiling, much as a swallow would do; and what with the glare of the lights, and the heat, and the senseless efforts made to capture it by throwing hats, it had really a hard time. The door being opened it darted out, and happily escaped; more fortunate than the one seen by Mr. Alcott, in Connecticut, in 1870. Why does everybody hunt down these rare birds, just as every bird-killer in town tried to kill the white robin that appeared here last year?

There has been within the memory of man a marked change in the migration habits of *Junco hyemalis*. They have their "stay-behinds" and "tender-foots," who do not go so far north to breed as do the others. Still the laggards seem capable of a compromise, nesting higher in the Southern mountains, while their hardier kindred, who venture further north, nest lower down on the mountain-sides. Was there not a time when this nesting southward of our Eastern snow-bird was, at most, very exceptional? I see these birds so happy and in such good heart, in the severest winter day, that I infer an arctic constitution in the well-to-do's of the tribe. Were they not once like the snow-bunting, *Plectrophanes nivalis*, which nests as high as Labrador, but which, it seems, has twice been found nesting in the Northern United States? Let one who is not even the son of a prophet venture a prediction for the birdmen of the future, that the snow-bunting will be found working southward after the example of its cousin, the snow-bird.

VII

Authors give several species of Junco, the first three being by some considered as mere varieties: *J. hyemalis*, our Eastern snow-bird; *J. aikenii*, the white-winged; and *J. Oregonis*, the Oregon snow-bird; besides these are *J. caniceps*, the chestnut-backed; and *J. annectens*, the chestnut-sided snow-bird. This much we must credit to Mr. J. Martin Trippe, as cited, though hardly accepted by Dr. Coues. Are these all good species? Lest I should get tripped up, I will not go into the controversy, but will ask permission to adduce the following, of course without vouching for the facts:

Once upon a time a patronymic dispute arose. With a geographical range so extraordinary as to render debatable the idea of dispersion from a common center, here were the Smiths, and the Smithes, and the Smyths, and the Smythes, and the Schmits, and the Smids, and the Smeds. That there were differences also, besides the names, was noticeable, such as black eyes, and blue eyes, and gray eyes, and hazel eyes. Still it was observable, that what of difference there was, was best appreciated by themselves. But had these slight differences been overlooked, and the real similarities not been neglected, and in other ways had the modern scientific methods been then in vogue, it might have appeared that in all this diversity there was not anything that had passed the varietal stage; that, besides the original, a nascent species had not been attained. In fact, with respect even to the names, it had been suspected that really they were but one and the same cognominal.

But an event happened which set all to take the matter in hand seriously. It came out that long ago a great ancestor had died, and left "untold wealth," which was waiting the proper claimants. Discussion now brought out the fact that these patronymics were but evolutionary variations of the same family name, which had been brought about by modifications of descent, geographical distribution, the simple effect of time and circumstance, or in more modern phrase, the environment; for all had descended from one great ancestral stirp,—the old, original, genuine *Johannes Smithius*, vulg. John Smith.

Perhaps we may yet decide as satisfactorily the stirp of the Juncos; meanwhile I lean to the belief that a *Junco hyemalis* was the *grand* John Smith of the whole snow-bird tribe.

VIII

But I fear all this will be of very small account, unless a word is said more descriptive of our Eastern snow-bird. It is often called the black snow-bird, because the dark colors prevail in this species over the others. The head and upper parts are grayish, or dark, ashy-black. The middle of the breast and the under parts of the bird, also the under side, or base of the tail, and the first and the second outside feathers of the tail, are white, though these outside tail feathers also have a black edge or margin. From the tip of the bill to the end of the tail the length is about six and a quarter inches. It is not a gaily decorated bird. The colors are subdued; yet it is neat and attractive.

As to the nesting of the Eastern species. Generally, if the individual moves far south, it nests pretty high up the mountains; should it not move far from its northern haunts, it will nest near the level of the sea — thus, with admirable intelligence, equalizing the temperature of their different nesting homes.

The nest is much the same for all the species. It is built in a slight depression of the ground, and is composed of leaves, grass, fine roots; and if the material can be got is neatly lined with cow or horse hair, while the exterior for purposes of mimicry is set off with green moss. It is thus a neat affair, and the sitting bird of dull color is an inconspicuous object.


The eggs are from three to five, and for all the species there is a pattern which marks them as snow-birds. They are about eight-tenths of an inch in length, and six-tenths thick. They “are white or whitish, often with a faint grayish tint, sometimes slightly flesh-colored, sprinkled more or less thickly, and uniformly with reddish brown, or pale chocolate, and often also a few dark brown spots, chiefly at or around the butt.”

Like the Robin Redbreast of the old world, which brings gladness to the cottager in the time of winter storms, so does our snow-bird cheer our winter landscape. And wherever its boreal stay may happen to be, when it divines the swelling buds of spring, the winter twitter is gone. There is a little gush of song, — a love spurt, — for they are now on nesting matters bent, and Junco and his mate are off looking up their summer home.

CHAPTER VII.

ROBIN REDBREAST, THE BIRD OF ROMANCE.

I

HAT a luxury of grief was that of my child experience over the sorrowful stories of the nursery! They evoked the fullest flow of sympathy, until emotion got completely the upper hand of judgment. With the tradition that Robinet's scarlet breast was due to contact with the sacred blood, I will not deal, as being too sacred. But there are other legendary episodes in Robin Redbreast's history of a simpler nature. To me far more real than the chronicles seemed those little tragedies, "The Children in the Wood," and "The Life and Death of Poor Cock Robin." How tender the scene of the two Redbreasts covering the dead innocents with leaves! And in the death of good little robin, how harrowing the particulars!—even the blood, the shroud, the grave, the funeral-knell, the burial!—all these so painfully substantial to the child-mind, when "of imagination all compact."

How the child-blood almost curdled when grandam solemnly intoned the little ballad,—

“ Who killed Cock Robin?

I, said the Sparrow,
With my bow and arrow;
I killed Cock Robin!

“ Who saw him die?

I, said the fly,
With my little eye;
I saw him die!”

II

An early American poet, William Clifton, addressed the following “Lines to the American Robin,”—

“ From winter so dreary and long,
Escap'd, ah! how welcome the day,
Sweet Bob with his innocent song,
Is returned to his favorite spray.

“ When the voice of the tempest was heard
As o'er the bleak mountain it pass'd,
He hied to the thicket, poor bird!
And shrank from the pitiless blast.

“ By the maid of the valley survey'd,
Did she melt at thy comfortless lot?
Her hand, was it stretched to thy aid,
As thou pick'st at the door of her cot?

“ She did; and the wintry wind
May it howl not around her green grove;
Be a bosom so gentle and kind,
Only fann'd by the breathings of love.



“She did; and the kiss of her swain,
With rapture, the deed shall requite,
That gave to my window again,
Poor Bob, and his song of delight.”

This little poem, though addressed to the American robin, is full of stock terms, all importations from the Mother Country. Our robin is a thrush, the English bird is a warbler, and is to a surprising degree the familiar bird of the people, who call it “Bob” and “Bobbie.”

III

It was in 1878, when crossing the mountains in Ireland upon the top of a stage-coach, that I had my first sight of Robinet, and, I am afraid that by my unrestrained enthusiasm, I provided entertainment for the other passengers.

One passenger, in particular, a lady of mature years and angular features, seemed to regard my exhibition of sentiment with no favor. Happily, a gentleman sat near me, who proved to be the surveyor of the public roads, a person of importance and education, and endowed with a love of Nature. I asked him if the Robin Redbreast was in that part of the country. He said it was a common bird. I then began descanting on the fact of its warm place in the affection of children, and said that to some extent this was true even of the children of America.

Just at that moment one of these dear birds showed itself on the roadside, and in an almost familiar way came pretty close to the horses. Of course, my enthu-

siasm was now unbounded and my tongue was freely let loose. The angular lady now found it too severe a task to restrain herself fully,—for the words, “so unbecoming!” escaped her lips, as a reproof to “*this American’s*” utter disregard of the proprieties.

I tried to redeem myself by attempting some compliments on Irish literature. Probably it was my want of skill that scored only a partial success, for though the lady’s attention was gained, no enthusiasm was aroused on her part. With the Irish officer the result was quite different, and his approval and sympathy encouraged me to attempt to justify myself in the eyes of my harsh critic.

“Madam,” said I, addressing the lady, and the other passengers listening, “your Robin Redbreast dwells in legend and history. In tradition it has the most venerated place among the birds. So you see there is something to condone the absence of restraint in one who is receiving his first vision of this calendared saint.”

I fancied that the features of my fellow-passenger had become a little less angular. But continuing, in the hope of deepening the impression made, I said:

“Like the insect embalmed in the casket of precious amber, I find the Redbreast in the ‘Fairy Queen’ of your own ancient poet Spenser, who in his Kilcolman Castle sang:

“‘The ruddock warbles soft.’”

There was a pleasant flutter among the passengers; but my lady’s standard of the proprieties was firmly adhered to, and a silent dignity maintained.

IV

Turning from that charming ride over the mountains of Ireland, and putting these nursery ditties all aside, I would say this little bird is very prettily noticed in the folk-lore of that country. The Emerald Isle has sung of Robinet in songs which may easily challenge our admiration. In the following, which expresses an Irish legend, the Redbreast figures very attractively, if, in sooth, he be not thus canonized in love's calendar. For example, is not this little song "a dainty dish to set before the queen?"—

"Of all the merry little birds that live up in the tree,
And carol from the sycamore and chestnut,
The prettiest little gentleman, that dearest is to me,
Is the one in coat of brown and scarlet waist-coat."

"It's my little Redbreast Robin,
And his head he keeps a-bobbin',
Of all the other pretty birds I'd choose him;
For he sings so sweetly still,
Through his tiny, slender bill,
With a little patch of red upon his bosom."

But sometimes sentiment and science are a little at variance, and so the last two lines are hardly correct in their coloring. In a word, the poet and the naturalist are here at issue. As to "his tiny, slender bill, Robinet has a beak as robust as any of his fellow "warblers," and adequate to very fierce, even bloody battle, when the fighting frenzy is on.

And in respect of that "little patch of red upon his bosom," it is a large spread of color, and covers the entire breast, as if it might be a little warrior bearing at his front a ruddy oriflamb.

Robinet has decided militant tendencies. But I prefer first to give an example of the pious suggestiveness of this little bird to the devout and reflective mind.

V

Bishop Joseph Hall, who died in 1656, was a famous author in his day. From the pithy and sententious quality of his style, he was called the English Seneca. In his work, *Occasional Meditations*, is one "Upon Occasion of a Redbreast coming into his Chamber":—

"Pretty bird, how cheerfully dost thou sit and sing, and yet knowest not where thou art, nor where thou shalt make thy next meal; and at night must shroud thyself into a bush for lodging! What a shame it is for me, that see before me so liberal provisions of my God, and find myself sit warm under my own roof, yet am ready to droop under a distrustful and unthankful dullness. Had I so little certainty of my harbour and purveyance, how heartless should I be, how careful, how little list I should have to make music to thee or myself! Surely thou camest not here without providence. God sent thee, not so much to delight, as to shame me, but all in a conviction of my sullen unbelief, who under more apparent means am less cheerful and

confident; reason and faith have not done so much in me as in thee, mere instinct of nature; want of foresight makes thee more merry if not more happy here than the foresight of better things maketh me."

I am afraid that the good prelate's phrase, "mere instinct of nature," may discount the piety which the porter attributed to his Robinet. William Howitt says that when he was in Winchester he saw, amid the deserted cloisters of Wickham College, a robin which the porter told him was the chapel bird and regularly attended Divine Service.

VI

I think I have seen birds affected by music. But are they not very exceptional? What does Shakespeare mean when he makes Speed say to Valentine: "You have learned to relish a love-song like a Robin Redbreast."

Says Wood: "Both bold and shy, the Redbreast is a most engaging bird, and seldom fails of securing the affection of those to whom he attaches himself. One of these birds was exceedingly familiar with all our family, his acquaintance having commenced through the medium of some crumbs from our hands. He would always come to us whenever we called his name, Bobby. Sometimes he would accompany us on our way to church through the lanes, and I have even seen him keeping pace with us along the one-sided street of Oxford, that is appropriately named Long Wall."

Robinet is a tender, sensitive little thing, although

he does remain all winter, for with the first severity of weather he seeks the shelter of barns and outhouses, and will in some instances domicile in the cottages where he has received kindness.

Even in nesting the robin often shows boldness and familiarity with man. One built her nest in a lady's larder, actually among the jars of preserves. When the good dame needed to take out a jar, she would hop off the nest to the floor, and when my lady was through with her work, she would go back again.

Wood narrates an instance where a Redbreast took possession, by dint of sheer effrontery, of a place in a taxidermist's shop. She had been several times driven out, but the master's patience gave way, and the bird conquered. She built her nest among the skulls and specimens, and went through the incubating and hatched her brood close to the bird-stuffer's bench—with absolute confidence in her own safety. Of course, such nesting habits are unusual, and come of those exceptional birds whose intelligence is in advance of their kind. They have tried the temper of man, and have learned to trust him, and thus to find safety from the many birds, and the small animals which seek to make prey of their eggs or young.

And it is similar with other small birds in their choosing the protection of superior beings. This fact can be seen on a large scale on our Atlantic coast. The fish-hawk, or osprey, constructs an enormous nest, and in the large interstices of the same many small birds build their little homes, and bring up their families. Undesignedly, these noble birds are as kindly

giants to these little creatures, who thus live safely in shelter of the "great castle walls."

VII

Robinet is one of the warblers, and not very distantly related to the skylark and nightingale. The scientific name by which he is known among naturalists is *Erythacus rubecula*, both words alluding to the scarlet, sometimes dark orange, of his throat and breast. It is almost turning into Greek and Latin the popular names of the bird; in English, Redbreast; in French, *Rouge gorge*, Redthroat; and the same in German, *Rothkelchen*.

The nest of the English robin is a rather pretty affair. It is usually built on the ground, under a hedge-row or bush, or "in a mossy bank or grassy knoll." For so small a bird the nest is somewhat large. The outside is made up of lichens in mimicry, and the rest is composed of dry leaves, moss, dead grass, and is lined with hair, and, perhaps, a few feathers. The eggs are from five to seven in number, "spotted with pale reddish brown, which sometimes have a purple tinge on a white ground. They are of a regular oval form, nine and a half twelfths of an inch long, by seven and a half broad." It breeds early in the spring, often raising two broods in the year.

The bird is as nearly as may be about the size of our familiar bluebird; but it has longer legs, and is spryer on the ground, though the latter may be its superior on the wing. And as to the Robinet's long

legs,—they serve it a good turn, especially in nesting-time; for it is not the bird to betray its home, by flying on or off the nest. It slips off quietly, and winds its way tortuously through and under the herbage with agility and speed.

What warmth of color have three little birds—the Redbreast, Nightingale, and Skylark—infused into English poetry! But the two latter I must pass by.

In Europe, Robin Redbreast's influence has been wide and deep. It has imbued the folk-lore, and its home has ever been in the hearts of the people. Hence the mistake of Clinton's feeble effort at transmutation,—as if one should try to tone up our mountains with Italian skies. An old poet calls the Redbreast "the mean bird," using the word in its ancient and kindly sense of "lowly." Certainly in rural England this little bird has affected wholesomely the religion and the home-life of the people.

VIII

Robin Redbreast is lovingly cherished in the Christian countries, and in many he has a special, "familiar term of endearment." The Swedes call him Tommi Liden; in Norway, he is Peter Ronsmed; in Germany, Thomas Guidito. In England, besides his pet nicknames, "Bob" and "Bobbie," he is known as Robin Redbreast, Robinet, and Ruddock. Much of this is prettily cast by Wordsworth,—

"Thou art the bird whom man loves best,
The pious bird with the scarlet breast,
Our little English Robin!

The bird that comes about our doors
 When autumn winds are sobbing!
 Thou the Peter of Norway boors!
 Their Thomas in Finland,
 And Russia far inland!
 The bird, which by some name or other,
 All men who know thee call thee brother."

And in that inimitable romantic drama "Cymbeline," how exquisitely the bird's tradition touches up the lament over the dead Imogene: Says Arviragus,—

"With fairest flowers,
 While summer lasts, and I live here, Fidele
 I'll sweeten thy sad grave; thou shalt not lack
 The flower that's like thy face, pale primrose; nor
 The azur'd hare-bell, like thy veins; no, nor
 The leaf of eglantine, whom not to slander,
 Out-sweeten'd not thy breath: the Ruddock would
 With charitable bill * * * * bring thee all this:
 Yea, and furr'd moss besides, when flowers are none;
 To winter-ground thy corse."

So the Redbreast winter-robes the grave. And here I cannot refrain from quoting that fine comment on this passage by one who long ago joined the immortals—Gulian C. Verplanck,—

"A fine old [stately] gentleman;
 One of ye olden kynde."

Percy asks: "Is this an allusion to the 'Babes in the Wood'? or was the notion of the Redbreast cover-

ing dead bodies general before the writing of that ballad?" It has been shown that the notion has been found in an earlier book of natural history; and there can be no doubt that it was an old popular belief. The Redbreast has always been a favorite with the poets, and,—

"Robin the mean, that best of all loves men,"—

as Browne sings, was naturally employed in the last offices of love. Drayton says, directly imitating Shakespeare,—

"Covering with *moss* the dead's unclosed eye,
The Redbreast teacheth *charity*."

In the beautiful stanza which Gray omitted from his "Elegy," the idea is put with his usual exquisite refinement,—

"There scattered oft, the earliest of the year
By hands unseen, are showers of violets found:
The Redbreast loves to build and warble there,
And little footsteps lightly print the ground."

In some parts of rural England the bird is almost domestic. Everybody is an almoner to Rob, who is the welcome mendicant in the snow at the cottage-door for his dole of bread crumbs; and he is the one singing bird—the soloist in "the silent season of the year." This fact is neatly given by N. J. Carington,—

"Sweet bird of autumn, silent is the song
Of earth and sky, that in the summer hour
Rang joyously, and thou alone art left
Sole minstrel of the dull and sinking year.

But trust me, warbler, lovelier lay than this,
Which now thou pourest to the chilly eve,
The joy-inspiring summer never knew.
The very children love to hear thy tale,
And talk of thee in many a legend wild,
And bless thee for those touching notes of thine."

IX

As to that pitiful plebeian bird, that poor unfortunate sparrow, whom the nursery tradition has so unjustly saddled with the murder of Cock Robin, every English boy's hand is set against him. But what an immunity has Robinet enjoyed! "To kill a robin is a sin"—is a well-settled article in the creed of the country lads "on the other side."

To get up an anthology on Robin Redbreast would not for want of material be a difficult task. I am sorry to say that even this dear bird "of sweet Christian charity" is not without its faults. It can be astonishingly combative upon occasion. So I would bespeak for it the same judgment of forbearance which was asked for the minister's dog, who had bitten his master's favorite elder,—a good man long tried and true, and well beloved for his work's sake. It was not that old Maje loved the elder less, but that he loved his master more, and could not allow any partnership in his esteem.

The Redbreast is a jealous little body. Let two males meet, a mutual challenge at once ensues, for the "green-eyed monster" sets them on, and a fierce

fight unto blood is the outcome. Wood makes the astounding statement that "one of these birds killed upwards of twenty of its own kind, merely because they came unto a greenhouse which he chose to arrogate to himself."

As already intimated, the bird is subject to an amiable weakness, like a pet dog, showing signs of unhappiness if other birds come near its human friends, as it "not only prohibits other individuals from sharing in the friendship, but will often drive away its own young, if they approach too closely."

As might be supposed of a little bird which makes a locality its home for the entire round of the seasons, and even years in succession, it becomes, in especial instances, familiar almost to domestication; for where welcome it will enter a cottage and stay through the winter. Hence the folk-lore of the Old World is replete with anecdotes of Thomas Guidito, or Tommi Liden, or Peter Ronsmed, or Bobbie, as his home may chance to be; for, overlooking his unamiable bearing to his own kind, he has many pretty traits and winsome ways. His song in England is sustained the entire year; but is not so rollicking and blithe in winter as in summer, the strain being then softer and a little sad,—in a word, though sweet, better becoming the time when the snow robes the ground in white.

X

Some thoughts are best given by the poets, and this restraint of the joyousness of the spring song

in "the little bird with bosom red" when the summer friends are gone, is expressed with delicious sweetness in "The Christian Year,"—

"Unheard in summer's flaming ray
 Pour forth thy notes, sweet singer,
Wooing the stillness of the autumn day;
 Bid it a moment linger,
 Nor fly
Too soon from winter's scowling eye.

"The blackbird's song at eventide,
 And hers, who gay ascends,
Filling the heavens far and wide,
 Are sweet. But none so blends
 As thine
With calm decay and peace divine."

I close this chapter with a fact in regard to the species, which leads to a reflection with a pleasant moral.


Bechstein says the robin migrates in Germany, leaving in October for warmer climes. Why does it not do so in Great Britain, where the seasons are more inclement? It is not because of the insular position, for many of these little birds leave Europe in the autumn for Africa, having to cross the Mediterranean Sea, in which attempt not a few must perish. In the spring the poor jaded things will halt for rest, after a two hundred miles' flight, at the Malta Islands, on their way back again to Sicily, and thence returning to Germany in March.

An ingenious writer ventures this as a reason. In England, especially in the rural regions, the bird has the general sympathy and in winter is piously fed. Food to a large extent determines the question of the migration of the feathered tribes. Birds will risk the climate, if food abounds. It seems, then, that Robinet comprehends the situation. In a word, the little English robin knows who and where are his friends. Let his less favored kin on the Continent go on their perilous tramp. As for him, thanks to his many friends, he is spared that harsh necessity.

CHAPTER VIII.

REDBREAST'S NAMESAKE, THE AMERICAN ROBIN.

I

T was but two years before my first sight of the Redbreast in Ireland and England that a specimen of its American namesake was captured in the latter country. It was an estray from the New World to the Old. How did it make the passage? That is what we shall never know. As it occurred when our Centennial Exposition was at its height, it seemed like a visitant of good-will to the mother land. An English journal described its advent in this language:—

“Mr. J. E. Harting has lately placed in the Zoölogical Gardens, of London, a living specimen of an American robin, which was captured in August or September last (1876), at Dover, in an exhausted condition, just as it had flown in from the sea. This is the first record of the occurrence of the American robin in a wild state in England, although it has been taken on the Continent.

“This adds another to the many species of American

birds that appear to have been carried across the ocean by the prevailing westerly winds. Altogether some seventy species have been captured in Europe, probably under the same conditions; but very few European birds are taken in America. This is supposed to be owing to the fact that, while the first-mentioned are carried across the ocean by the prevalent westerly winds, the second reach America by way of Scandinavia, Iceland, and Greenland."

II

Though not zoologically, yet historically, the little Redbreast lives in our American robin. On their arrival, the Puritans saw the American bird, with its breast of red, though not the bright red or scarlet which plays its part in the traditions of the Robin Redbreast. Not without a kindly imagination was that iron-clad literalism of those intense pietists. Their first spring opening in the New World brought them such immense numbers of these new birds, and of a size so much larger than the robins at home, the sight seemed a welcome and a promise of the fatness and goodliness of their land of refuge. And it was so home-like to find robins in the land of refuge. In a word, this naming was much an affair of sentiment. I fancy these Puritans, though keen at dialectics, were less acute as observers in the field of nature. The bird they dubbed a robin is a thrush, as is the black-bird and throstle of their native land. Hence its scientific name *Turdus migratorius*, literally the migrat-

ing thrush. But Robin Redbreast is a warbler, *Erythaca rubecola*, and in England it does not migrate. Even in the winter, when all else is mute, it will warble on the sill of the cottage window, and upon opportunity will enter and sing, even in the night, to the cheery crackling of the fire on the hearth.

The robin loves to be near the homes of men, especially if an old apple orchard invites it,—a fact so prettily expressed by Henry B. Hirst,—

“Perched here and there on some tall tree—as breaks

The misty dawn, loud, clarionet-like rings

Their matin-hymn, while Nature also wakes

From her long sleep, and sings.

Gradually the flocks grow less, for two by two,

The robins pass away,—each with his mate;

And from the orchard, moist with April dew,

We hear their pretty prate;

Hard by the haunts of men.”

III

As a migrant the robin leaves its northern home for a sunnier clime on the approach of the very cold weather, and the bird is gregarious at the time of coming or going. But in the Middle States it may be seen in numbers even in winter. This is especially true of the cedar swamps, where the berries furnish food, and the dense evergreens afford warm shelter from the blast.

Their coming in spring is not a set time at all, but is altogether dependent on the weather. I have

noticed them as early as the fourteenth of February, twittering in pairs, and evidently on pre-connubial matters bent. But St. Valentine has nothing to do with it, and all this conjugal "pretty prate" has often turned out premature, for a few days of boreal bluster have so scattered all this fuss and feather as to cause a disappearance of every one. The spring must, however, be very inauspicious if these birds are not with us, and at their nest-making duties before April is off the calendar.

The liking which our robin has for nearness to human abodes has doubtless caused not a little modification of its nesting habits. An instance is in my recollection of its building in a depression on the ground. The Robin Redbreast, as I have said, uests on the ground under a hedge, or in a little bank; but our robin is emphatically a nester in trees. It will build in the street shade trees of a village, and positively delights in the smooth open crotch of an old tree, or the stout naked limb of an apple-tree, on which it will saddle its nest of mud and sticks. It will even build under the piazza of a dwelling-house.

IV

A very inartistic affair is a robin's nest,—crude, large, and often quite exposed. Curiously, too, the female rules the whole affair, even to the carrying of the material and the building of the nest. Only upon extraordinary emergency is her husband allowed to put a hand to the work. The plastic mud is molded to her liking by the bird's movements. She drops her

tail over the rim, then turns round,—thus her breast and tail give shape to the structure.

It is somewhat singular that for a bird, which loves to nest in trees, the robin should virtually be a mud-nester. But this fact is not without bird wisdom. It makes its first nest before the cold of winter is entirely gone,—and so constructed, the wind can not penetrate the walls,—and despite the cold blasts of spring, the adobe hut is a cozy home for the young.

Dr. Abbott has an ingenious hypothesis to explain the origin of this habit of the robin's making adobe nests, which, if correct, would elevate in rank these mud-sills of the birds. He thinks when the great ice-sheet had crowded the birds far south, and then began to recede north, the robins in their impatience pressed near to the receding glacier, and had to make their nests warm,—hence their structure of mud. But this is carrying the record very far back, and seems to me hardly probable.

This matter of the nest-building makes a poor show for the male bird's gallantry. But as we shall see, his unremitting devotion to family matters after the baby robins come, must acquit him of unseemly conduct. During the nesting he is the sentinel, and is all attention. As he neither carries the hod, nor lays a brick, perhaps it is because madam considers him a muff at building.

At any rate she will have her own way, even in choice of place and material, as well as in the matter of nest-making. He is put on watch and guard.

She has found a good place; let him see that it is not taken from them by some less fortunate birds. And well he minds,—keeping constantly near and on the alert. He is a trusty sentinel, though occasionally so overcome with sentiment as to leave his post just for a moment to go to meet her, and to sing or talk a note of encouragement to lighten her labor.

Usually, three or four days suffice for nest-building, and even this may be shortened. An egg daily is laid in the nest, and the set may consist of only two eggs, or as many as seven, though this is an unusual number. The eggs in a nest will average four or five. They “measure from an inch and one-eighth to an inch and one-fourth in length, by three fourths to four-fifths in breadth, and are of a uniform rich, greenish-blue color, without any spots.”

Should the nest be destroyed, before the laying is finished, the distressed female will drop her treasures in other robins' nests; but will never disturb the nest of any other species. Under such circumstances the two birds may even seek to dispossess another pair of their nest; for with many birds, as with many men, the ability to take from another constitutes the right of appropriation.

V

The hen, of course, does the main part of incubation, the male only sitting while she is off for food, or at her ablutions. In about eleven days the young

make their appearance. In seven more their eyes will be open, and their bodies covered with pin-feathers. Eighteen or twenty-one days should see them fledged, and ready to leave the nest.

From the day when the young ones emerge from the eggs the work of the male is intense. The first brood is out before any berries are ready, and the food must consist of insects and worms. In the course of a day, each young bird will need fully its own weight in food. Add to this, that the male must get his own supply too, and must have time to take his daily bath, and to keep the house tidy also, for he lets no particle of the young one's leavings stay in the nest,—and we can see what the work of bringing up a family means for a male robin.

While the female is nesting and laying her eggs, the male does a good deal of singing. Now throughout the day work is too onerous for that. But when the day's toil is over, and the babies are asleep under their mother's wings, perched in the highest branch of my Western maple, as near to heaven as he can get for his devotions, he pipes his vesper psalm like a silver-throated seraph; and she, a silent worshiper, takes in the solemn music. Then follows a rest, and soon the dark night is on. Now another outpouring—short, but so golden! This is the bird's nocturne. He has also his vespers, loud and gushing,—a full hour and a half before the gray dawn receives the rosy light.

And is this a robin? Yes! But my inspirer is, for a robin, an exceptionally fine singer; for among these

feathered worshipers in Nature's cathedral, though of the same spirit, all flesh is not the same flesh. There are diversities of gifts. In the capacity for song birds differ greatly.

VI

Certainly many birds have high intelligence and great capacity for pleasure and emotional suffering. Compared with its body, that is, weight for weight, the birdie's brain exceeds that of man. As the steam is to the engine so is the blood to the brain. Then how active is the brain work; for in the birds the circulation is more rapid than in any other animal. And this activity is the robin's daily life. Hence comes a physiological necessity for a liberal food supply.

The robin raises two broods in a season, sometimes three. Insect food and worms predominate for the first brood. In the summer, berries and cherries are drawn upon, both in the gardens and the wild places. But admitting this, cannot the farmer see that, without the birds, the insects would possess the land and make agriculture simply impossible?

But cares are multiplying. The fledgelings must have a little training. They need to be taught, and the mother feels new necessities approaching. Perhaps it has been a large brood,—and they have not yet their flying wings; and here is one, may be two, crowded out of the nest. To my knowledge once this did happen,—and the poor father bird was well-nigh at his wits' end what to do. The mother would not help him in his perplexity; that was his concern, she would have none of it.

What did the noble fellow do? The poor things must not be nestless in the cold night, and so perish. He was equal to the situation,—he built with great rapidity another nest by the side of the old one, and so in a double house brought up the family.

Further, when the time came that the fledgelings must bestir themselves, there was one troublesome child always falling to the ground, and so courting destruction. That little one needed so much attention,—and now came the callow cries of the second brood, and he must attend to their wants. And so between the slow ones, that seemed as if they wouldn't learn, and the new mouths that he must fill, we must not blame him if his devotions at matins and vespers are less apparent.

VII

I have been interested in watching the robins at early dawn searching for worms, and am convinced that the hearing of the bird more than the seeing has to do with the matter. We know this is so with the woodpecker. How this bird will run up and down and around the bole of a tree, listening to the larvæ in the wood! And the robin in the sward ere the sun is high. He does not run, he can not; he hops, then he listens, and the attitude is really pretty. He stoops his head, gives it a turn, so adjusting one ear towards the ground; then takes another hop or two. Now that setting of the neck awry looks so pert that it is almost certain that he hears something. Then another hop or two, and down goes the head. The extremity

of the worm is about half an inch from the surface, the bird's bill nips it. Now for a pull—and a jerk. Ah! there is a slip, and the bird actually tumbles over backward as if with a recoil. But how quickly he is up and at it again, before the worm can get away.

Tut! tut! tut! Here come those sparrows. They have driven my bluebirds away long ago; and now even my robins are to be annoyed. The dear fellow whom I have been watching has got his bill full of worms, one apiece for the babies' breakfast; and that cock-sparrow is pulling at one of these squirming macaronies in Robin's mouth; and a thievish comrade comes to help, and still another. The dear bird is robbed of all. Poor reward for his industry! The early bird gets the worm, but for somebody else sometimes.

I once saw a tragic affair at the rectory in town. Two robins had a nest in a noble old white pine. The limbs reached far out. And there from that nest, suspended by a horse-hair, was a mother bird. She had accidentally got noosed,—and there she hung by the neck dead. The male bird had to bring up the little ones, and he did it bravely and well.

VIII

Sitting on the piazza of a friend's house at Forked River, in a cedar-tree but a few feet from me, I noticed a pair of kingbirds, or bee-martins. Their proximity to the house, and the resemblance their nest bore to

that of the robin interested me. I could almost reach the nest with my hands. So I expressed my surprise to the daughter of my friend.

"Yes!" she exclaimed,—"The hateful things! The nest was built by robins; and all the time they were building those kingbirds kept hanging around. When the nest was finished the two robins went off for an hour or so, and immediately these pirates took possession of it. I was fairly angry, and got the broom and tried to drive them away, but father stopped me, as he said it would be of no use; and kingbirds were useful as they kept crows and hawks away from the little chickens."

"Well, but what about the robins?" I asked impatiently.

"In an hour or so they came back, and there was a high time. But though the poor things fought well, it was of no use, they were no match for the kingbirds; so they went off. I suppose you know that the kingbird is a saucy fellow anyhow—and don't fear even a hawk!"

At the risk of seeming pedantic, I told my informant that the technical name of the kingbird was *Tyrannus*, which means tyrant.

If those pitiful little sparrow thieves had any conscience, I would have liked to read the following to them, which I communicated to the *American Naturalist* in 1883:—

IX

On a fine Sunday morning in the month of May, my son, and another young man, were watching

a sparrow, *Passer domesticus*, which was building or repairing its nest in a maple-tree. They observed a sparrow-hawk, *Falco sparverius*, hovering in mid-air. The *Passer* perched on the top of a picket but a few feet from them, when the hawk swooped down with great rapidity, seized, and carried high in air the poor sparrow, before the young men could fairly comprehend the transaction.

It was, however, quite otherwise with a robin, which had witnessed the deed from his perch in a tree near by. The noble bird lost no time in making pursuit of the marauder. My son says he never saw a robin fly with such speed as did this one. Soon it caught up with the hawk, was on its back and fought desperately, literally pulling out the feathers by mouthfuls, which were easily seen floating in the wind. The trio seemed now poised in the air, as the hawk's flight was arrested by its efforts to dislodge the assailant with its wings. The little hero must have drawn blood, for every dip of its bill brought out a craven cry from the buccaneer.

The robin achieved a complete victory. The hawk dropped his captive, and made an ignominious retreat. The hawk's prey fell a few feet through the air, probably half-dead with fright, but regaining its senses in time to recover the use of its wings before reaching the ground, when it flew away, prudently, it may be supposed, in a direction the opposite of that taken by the hawk.

As to the conduct of the robin, it surely was magnanimous to the last degree. The bird it rescued

was at best an unfriendly pariah, so regarded by the whole avian tribe. But what was the generous impulse which actuated its deliverer one cannot know.

I think the robin's act showed extraordinary pluck. Had the hawk, on giving up its prey, turned on its pursuer, the odds would have been fearfully against the brave little fellow. But the attack was so vigorous, and doubtless such a surprise, as the robber's attention was quite occupied with his prey, that the hawk was completely cowed, and glad to get away by flight. Whether the traditional killer of "Cock Robin" experienced the emotion of gratitude to his deliverer is a bit of the bird mind about which we must remain in the dark.

X

I shall close this chapter with an extract from Caroline Boyce, who has written very pleasantly on the robin:—

"Upon close observation the plumage of the adult robin is tame but rich and mellow, with soft colorings. The top of the head is dappled in brown and black, with delicate markings and pencilings at the throat, where, in the male, it meets the crimson breast. The female is lighter in color, and has no rosy tinge to the neck feathers. There is but a slight difference in the size of the male and the female, but the general shape and build of the birds is marked so perceptibly, that a practiced eye can readily distinguish between the two. In general appearance the female is the larger bird, but the male

is stronger, closer, and altogether more powerful in limb. The large bright eyes in both sexes are set in a ring of white.


"As a songster the robin does not rank high, yet there are some rare singers among the species. Nature does not appear to endow all with her best gifts. Where there is one that is a good singer there are scores that are only mediocre. A singer has a long, slender body, a long neck, a long tail,—dark, rich plumage, soft like satin. He is a fine bred bird. The robin's note is peculiarly mellow and flute-like, sometimes a little irregular and extravagant; but, when followed closely, through all its various changes, vibrations and intonations, it is found to possess a striking sweetness and freshness seldom excelled, and rarely equaled, if we except the beautiful strain of the hermit thrush.

"He gives to his lower notes a quiet dash of subdued sadness, and then immediately swells them to upward bars of wondrous perfection and beauty. He has a set of notes in an under key that are seldom heard by the unobservant ear, and if heard are attributed to another bird. He gives a clear, quick, military call, and has a piercing cry of distress. The notes about the nest are all suppressed and low, but yet clear and distinct. They are uttered by the female, and are the language of the mother to her offspring. She has no distinct song."

CHAPTER IX.

ROB, OUR TAME ROBIN.

I

N the clearer light of these latter days a higher value has settled on the so-called small things of nature. To-day the student thinks he finds in the lower realms of animate beings a psychology, perhaps also a morality, and a self-consciousness which he asserts are the "baby figures" of better things that were ordained to come. And though so lowly, how educable are these emotional and sensitive creatures! Could one know all about them, perhaps each would be found to have an interesting biography.

To get trustworthy knowledge of an animal's habits it must be studied in its own wild home. But if we can supplement this with the long and careful study of the same animal when brought into the relations of an interesting pet, though born in the wild state, we obtain a knowledge of the animal mind which can be had in no other way. Our last chapter gave the wild life of the American robin. Let us attempt to tell the story of a tame robin, one of our pets for a number of years.

My children called him "Bill" and "Billie," though I named him Rob. Perhaps, from the frequency of their talk to him, he was more easily attracted by their name than mine. Still I liked mine, and generally used it.

Rob, for so I shall call him, was out of a spring brood taken from a nest on Long Island. Though past the callow stage, he was not fairly fledged. His pap was meal mixed with fresh milk, a point which he insisted on ever after. He was a year old when he became one of our pets, and very soon he had established himself in our affections. He was very exacting of attention,—so demonstrative and familiar. In the very pertness of his humor the conduct of the bird seemed paradoxical; for though in his way almost beseeching your notice, he would on your approach assume a repellant attitude, with wings striking and bill snapping as if he were an overgrown, too-much coddled canary-bird. But to witness the 'high-jinks' of his fury, it was only necessary to intrude a hand into the cage, keeping the back upwards, and Rob would seem wild with savage gladness, for he would settle on it and peck away with his sharp bill at the knuckles as if he were picking into a big bonanza.

II

Much sentiment is wasted about keeping birds in confinement. Does it not generally come from such as are intolerant of pets? "It is a deprivation of natural freedom," says one. So thought the horse in

the green meadow, as he beheld the ass roaming amid thistles in the unfenced sand lots. Even birds may have 'hard times.' Yes, I have known the free wild birds to be starved to death within the sound of a canary's song. But, perhaps, Rob was unsentimental, for it was plain that prison or not he liked his cage. In it he was at home, and well to do,—away from it he was adrift and unsettled.

The door of the cage was sometimes left open for a little while, a proceeding which usually called for large consideration on the part of the occupant. At such times he would look as quizzical as a knowing young barrister,—though just a little embarrassed. "Want to get me out, hey? Ah, but possession is nine-tenths of the law!" Still even wise folks may be inquisitive, and Rob was not above that weakness for all his circumspection. He would stand on the door-sill of the cage, and with those pretty hazel eyes, set in ivory rings, take in the situation. This done, with a gravity fitting the act, he would step in again, and resume his uppermost seat—the top perch. Sometimes Rob would come out for a little while.

III

As a rule, excess of freedom is pretty sure to cause our pets to come to grief. There are two ways of doing this. They may get into mischief, and so bring down maledictions. In this way how many an interesting pet, after making itself intolerable, has got itself exiled to the menagerie for the rest of its days. Some-

times it is exposure to an enemy. The real 'giant grim' of the birdies is Grimalkin,—and he is everywhere. We had lengthened Rob's parole with bad effect on his circumspection. In fact, there was a slackening up of the usual bird prudence. One day found him missing. So Rob had run his parole! No, he had not. The pear-tree was white with bloom, and he thought to enjoy himself in its branches.

Now Rob's hour had come,—his first trouble. He had fallen into a snare. Grimalkin was hidden in the pear-tree, and the catastrophe was serious. We found the poor bird half-dead, with a gory laceration of the breast. How he got himself out of the mouth of the carnivore seemed a mystery. But Rob had gone through life so far on his face, and my belief is that his escape was due to his plucky impudence. In his case the proverb had been emphatically true, "Familiarity breeds contempt." I had often taken him pettingly into my hands, when, not from terror, but sheer temper, he would bite and scream like a vixen. He seemed to fear nothing. As for the house-cat and the dogs, they were nobodies whom he saw every-day.

IV

But a word more about Rob's catastrophe, the wind-up of his venture abroad for that day. The cat was a neighbor's,—unfed, hence its nature was half-wild. Rob, on the other hand, had all the advantages of civilization. I have seen the wild robin, when caught by the cat, and the victim was as resistless as a clod; in fact, paralyzed with terror.

With Rob I think the case was different. The cat probably had a hold on his breast with her mouth, but owing to the smallness of the branch which supported her, she had to use all her feet to keep her position, although needing the fore ones to retain her prey, for Rob, though badly frightened, kept his senses, and, doubtless, like a civilized bird, used his wings and bill to good purpose on the face and eyes of his grim captor, thus accomplishing his release. It was a long while before the bird got over that wound, which left an ugly though not dishonorable scar.

The bird had its own amusements. Is there not an instinct, in whose manifestations our little girls are strangely like the birds? In their plays how our children anticipate the cares and ways of motherhood—the nursing and the dressing of the doll, the make-believe keeping house, playing laundry, etc. A hundred times have I seen cage birds go through a ‘dumb show’ of mimic nesting, fussing with laborious concern over a feather, or stick, or straw, or hair. I have seen Rob running about his cage with a bit of straw in his mouth, and uttering a conceited twitter, as if he were in live earnest, and saying to a supposable partner in the business: “Here, Mrs. Rob, is just the thing you want.”

V

If one wanted to get Rob on a string, it was enough to give him, in technical parlance, the proximal end of a bit of grocer’s cord, reserving to one’s self a hold on the distal end, and allowing plenty

of slack. How perseveringly the bird would draw the cord into the cage, and with system too, in fact, as methodically as the boatman taking in the lines. Seizing it with his bill, an inch or two would be drawn in, and a foot put on it; then a little more pulled in, and held in place in like manner, and so on till the end was reached. Then the fun began. Gently the coil was drawn from under the bird's foot; this would bother Rob, for though he was pretty fair on practical reasoning, he could not take a step in the abstract. With quickened energy he would go the thing all over again,—and again he would find his labor slipping from under his feet. This at last would excite a spurt of temper, and for the nonce 'hauling in,' as the children called it, would be given up in disgust.

I must repeat or enlarge upon an observation made on the physiology of birds in a previous place. Their nervous system is highly wrought, and the blood circulation is very rapid. Hence, it should not surprise us if we sometimes see our little favorites in an excited frame of mind. For some birds there is more excuse than for others. Owners of cage pets do not always reflect that birds of the Passerine group are the most delicately organized; hence they are often irritable. Coues has well called them fast livers,—they so freely consume oxygen. It was little wonder, then, that Rob had a high temper on occasion.

To children under fair control, who do not tease until it becomes persecution, a live pet is a plaything suggestive of infinite resources. A trick, perhaps un-

wise but really amusing, was sometimes played on the bird. A bit of rubber or elastic cord, an inch long, was tied to one of the wires of the cage. Rob would seize it in his bill and pull, until his efforts would stretch it to a number of inches, when just as he was pulling the hardest, it would fly back again, and Rob to his dismay would be set back too, with a recoil that fairly lifted him off his legs and sent him tail backward. As to this somerset the achievement was a genuine surprise; but in the matter of experience the bird never learned the first lesson, and would keep on meeting the same mishap, until badly "hoist with his own petard," he would give it up as a bad job.

None are more pat at homiletic morality than bright children. Granny had a way of checking them, if retailing town tattle: "My children, don't stretch! Don't stretch! If you do, it will come back again!" Rob was warned of the consequences of stretching,—but it all went for nothing. In regard to taking good advice, Rob was as stolid as other folks. His adventurousness was his "upsetting sin."

VI

There may not be much dignity in it, but the boy does find some enjoyment in running backwards and forwards by a picket-fence, teasing the testy dog which keeps up with him on the other side. Often Rob had his disposition tried in the same way by some one rasping a finger along the wires of the cage. He would pursue the obnoxious digit, snapping his bill

furiously, as only a bird can do. By and by would be heard a sharp involuntary 'Oh!' telling that Rob had got in a good point on his tormentor, and thus closed the game.

Our robin often afforded matter for study and delight in those expressive attitudes of which birds only are capable, and which too effectually elude the artist's pencil. What high-wrought excitability and poetic expression appear in these movements. What barbaric defiance in the cresting of the crown feathers of the head; that queer furring up, or puffiness of the cheeks, indicating that the hearing is keyed to a strain; that jaunty posing of the head, and saucy setting of the eye, for a bird never looks so knowing as when he looks sidewise,—all this fills a hiatus where speech cannot get in. Even the tail adds to the action. Now comes a decisive chirp. A conclusion has been reached in the bird mind. Next is a series of rapid chirps, making a whirr of sound. This is the call-note of his tribe, for he has detected a thrush in yonder grove,—and hark! the call is answered.

But what does Rob know of his clan? Did he not leave his folks when but a callow nestling? Well, some knowledge he has of inheritance, for there is both with birds and men a knowledge which cometh not with observation; some of their ways have come to him by descent. It is now March, and Rob has the spring fever badly, that migratory frenzy which has set the whole tribe moving north. While the spell lasts, he is impatient of home and is as mad as a March hare. Some robins in that cherry-tree

have set him fairly wild; and even when there is neither sight nor sound of bird,—that migratory impulse, that mystic call to move and mate,—keeps the poor bird uneasy. Happily, it does not last many days.

It is quite possible that for the spring-time of the first year or two of a tamed bird's captivity, this migration impulse, if unchecked, is not unlike nostalgia; and to some persons is not homesickness a distressing malady? Usually it yields to the surroundings, for—

“Earth hath no sorrow time can not heal.”

But sometimes the sufferer succumbs. And this is painfully true of feral animals in confinement.

By April Rob does something better than chirp, for he gets into a strain like the conjugal song of the robins. Through several days it is so low, soft, and silvery,—so tender and sweet; but this is over, the melody is set on a higher key, and becomes a volume of exultant rapture. He has now taken up an octave flute. In his dumpy moods he has been talked to pettingly so much that he knows the words like a book: “Wake up, pretty boy! Wake up! Wake up!” The boys sing the words again and again. Then they whistle them. The bird catches this little snatch of melody, and executes it in a clear, distinct enunciation. This is Rob's best rôle. Pity that sweetness should ever cloy, but Rob did give us too much of a good thing. Through the summer months, an hour before daylight, on the highest key possible, came that piccolo strain, “Wake

up, pretty boy! Wake up! Wake up!" Rob's cage was inside the window-blinds, and by the time the twilight was breaking up, generally several robins had visited the cherry-tree near the house, attracted by the singer whom they could not see.

VII

And a word is due Rob as a singer. His vocalization was enunciation. It was melodious and distinct.

Not at all soaring-atic,
Nor the least-wise operative
Though the sweetest golden lays,
One knows every word he says.
No rant, nor bray, nor squeaking;
But singing, plain as speaking.

The prince of the mimics is the mocking-bird. But to some degree are not all the thrushes mimics. The cat-bird is really clever in this direction. However, I own to a surprise on hearing that Rob had gone into the mimic art. Whenever our black-and-tan, Dick, heard his young master whistle an invitation to take a walk with him, the affectionate brute would almost lose his head in yelping gladness. It was the same dog that nearly damaged the reputation of his ministerial master. It was a beautiful day in June, and Dick was seen acting as if half-dazed, running up and down the yard looking for his young master, but unable to find him. Rob had learned the dog-call,

and from behind the window-blinds was practicing his new accomplishment. Dick was literally making the dust fly in quest of the caller. At last the dog saw the trick, and slunk away not a little abashed. We all felt that, though funny, it was really mean of Rob. Our neighbor's fine hunter was bothered in the same way. For an April fool's-day attack on canine astuteness, it was by no means a failure.

A similar effort on another line added no laurels to the bird. Rob tried his hand on the call used by madam to her poultry at feeding-time. The attempt did him no credit, perhaps for the reason that the chickens didn't know enough to get sold. But with some persons failures are simply the preludes to success. Our mimic had grander things in reserve, for the above were not his only attempts at imposition. On one occasion the good lady of the house being upstairs came running down in great concern, there was such a cry of distress among the young chickens, "Peep! peep! peep!" in rapid plaint smote her gentle ear. To reach them she had to pass Rob's cage. Here she stopped short, and gave vent to an outburst of laughing indignation, for it was Rob, the rascally mocker, who was doing his best to set all the maternal hens at ears about their babies.

At another time Rob achieved a marked success; he imitated the cry of the mother-hen when the hawk is overhead,—that low whirring note of danger. All was consternation in the barn-yard. Away sped each callow brood to their own particular mamma, who, though unable to see any danger in the air, yet

supposing the alarm to come from some watchful mother that did, instantly took her frightened charge under her wings. Rob's mimics were generally perfect. In executing some of them he was so loud-voiced as to be heard a long way off. Persons at quite a distance have been attracted by these notes, and have called to see our "mocking-bird," and been much surprised to learn that it was "only a robin."

VIII

The senses of birds must be very acute. I would instance in Rob's case that of scent. He was extravagantly fond of fresh beef; and though in a different room could tell the arrival of the butcher's boy in the kitchen, when he would scream with impatience until strips of raw beef were fed him. If, when receiving one morsel, he saw another in the fingers of his mistress, he would drop the first on the floor of his cage and wait for the next bit with nervous impatience; and so would he do until he had secured all that his sharp eyes saw,—which done, he ate these delicacies in a perfectly orderly way. How unlike a dog, which swallows as fast as he can the meat given him, for Rob was particular. The meat so providently put on the floor of his cage was thus rendered dirty; the knowing bird would take it piece by piece and wash it in his water tub. This conduct showed the nearest approach to abstract reasoning that I ever saw the bird make.

Many of the birds like this condiment of leisure

with their food, a better seasoning by far than cayenne pepper. That epicure may have been a gormand; but assuredly he had a good gastronomic judgment, who, when eating at a banquet, and the guest by his side kept asking him questions, said, "Sir, your interrogations are a serious drawback to my enjoyment. In answering your question that last morsel of venison fat was swallowed without the leisurely meditation on its quality, necessary to the full appreciation thereof."

Have birds this gusto of contemplation? How often have I seen a fowl pick up a grain of corn, then drop it and look at it,—then pick it up, drop and inspect again several times,—then swallow it, and all with no other logic in the matter that I could see than to make the most of one's blessings. So with Rob. Having got his store before him, he enjoyed it in a leisurely and sensible way. He was very fond of the larvæ which we would find in chestnuts. Even these he could smell afar off, and would go into ecstasies, making a lively chattering talk, as one was brought to his cage. The presentation of a spider was a grand event. But as to earth-worms he had a soul above all such. So far as Rob was concerned, the early bird was entirely welcome to them. But, as we shall find, later in life he changed his mind, and learned to like a vermicular diet, especially if he could provide it for himself. In truth, even with the animals that gusto which belongs to the love of food, may become quite eccentric, and even beget ingenious epicurean inventions.

IX

I think our pet must have been five years old when he had a hard time molting, and the result, too, was quite notable. When the large feathers began to come, two white ones appeared in the tail. The poor bird was greatly distressed about it, so much so that he made up his mind he would not stand it, but would extract the offensive things. And at it he went.

The tail was deflected so as to meet the head, itself turned under the perch; the bill then seized one of the craven feathers and pulled desperately. As if the perch were a trapeze, the bird swung fairly round, going over backwards, and falling on the floor of the cage. But the feather had not come out. At it again he went in the same way, and with the same result. And this was kept up nearly an hour, by which time the tail had become all dyed with blood. At last the odious feathers were removed, and the poor bird,—weak, bleeding and suffering,—put its head under a wing and took rest.

What shall be said to this? Was it pride or a certain proper self-respect? I cannot say. Of one thing I have no doubt,—it was real mental distress. But this matter caused us all a good deal of solicitude, for it was kept up some weeks, as the new feathers would come in white. So, at length, the bird submitted in sheer despair. When the feathers came to the full there were two white ones in the tail and as many in each wing. At the next molt the number of white feathers increased. When he was eight years old all

the primaries of both wings were of a snowy whiteness; also the large tail feathers, except the central pair, which kept their normal dark color in bold contrast, as lying on a bed of white. This certainly was a strange costume for a robin. His own mother would never have known him. In our eyes Rob, though in an eccentric costume, seemed a gay and elegant fellow.

This partial albinism, I believe, is occasionally found among the robins. But what is its meaning? Attacking the largest feathers of the tail and wings, it might indicate inability of the pigment cells to furnish color any longer at those parts of the plumage where the demand was the greatest. It is doubtless due to an exceptional atrophy of the secreting color glands, and is aggravated by age, for it increased with his years.

CHAPTER X.

ROB GOES WEST.

I



OUR pets were usually divided round in the family. Rob, or "Billie," as she called him, was claimed by my daughter. It was a tender parting when, with her husband, she left for a new home in a Western city. And even Rob had no small share of our good-byes when taken to the car with the bridal pair. Of course the interest in the leave-taking by the elder folks centered in the young persons, to whom this was an epochal day in their life career. But one of my boys seemed especially concerned about Rob, and actually shed tears at parting with the bird. Just ere the train left, though there was a kiss for sister, there were sobs with the last look at his playfellow Rob.

Their arrival West was in the midst of a beautiful Indian summer, and the bird's cage was hung in the shade of a tree near the street. Rob's first Sunday in Omaha was a notable day, indeed, and well for him that certain 'blue laws' had ceased to be of force, or it would have gone hard with him and his mistress for the double wickedness of song-singing on the Sab-

bath-day, and the undoing and dissipating of sanctuary ordinances. The balmy air seemed a joy to the little fellow; and with a flute-like clearness he piped forth his favorite rôle. As if he were the tongue of a silver bell,—the air was made resonant with —“Wake up, pretty boy! Wake up! Wake up!” The people, returning home from church, stopped in knots before the house. And, unabashed, Rob kept up his music.

“That bird is from the East!” was the remark. “*From the East?*” So Rob, like his ancestor with the Puritan exile, had awakened a home-feeling. The dear charming fellow! He was talked about, and people went to hear him after their Sunday dinner,—or may be only to take a little walk, but somehow they did go that way.

II

With advancing years came increasing infirmity of temper to Rob. The bird had always been plucky and fearless. But he was becoming combative. He disliked pets of any kind, probably from jealousy, and the presence of a canary would make him very unhappy. Against the wild birds he held a mortal antipathy, and his cage being suspended under a tree he had frequent visits from such.

For several days a pair of robins came regularly, alighting on his cage and greatly exciting his ire. They made persistent efforts to get the food, thus irritating the rightful owner, although there was enough and to spare. The male gave battle and the

contest grew hot. The outsider had the advantage in that he could administer downward strokes, while the rightful defender of his home and goods could only strike upward. But Rob proved himself sufficient for the occasion. His tactics showed 'science.' He pulled a foot of his opponent through the wires, and held it in desperate tenacity, albeit the equally desperate efforts of the other bird to extricate it. In fact, that underhanded strategy finished the job, and, contrary to all rules, the uppermost fowl was the losing bird. Both combatants, however, were badly punished and in a gory condition when the strife ended.

As we have seen, monkeys like stolen food better than the same kind if come by honestly. Is this a trait in birds? In order to keep peace, Rob's mistress exposed food daily for the wild birds. But those robins preferred to steal, as if it looked like earning their own bread.

In the encounters, of which an instance is just given, Rob had to "contend with the weight of years," while his antagonist every time was a younger bird. He would sometimes show a cowed spirit, as when he got a sharp pick delivered fairly on his poll, and would utter the call-cry for help.

Rob was now eight years old, and with less of physical vigor, he was getting to be very irritable. When worsted by an opponent or smarting in conflict, as instanced, he would chatter his distress, and call his mistress, who knew well his alarm or danger call. And he had his peevish cries, too, simply chattering ill-nature.

III

Each summer for several years, whenever the weather was fit, he had his freedom. The cage door was left open, and to it he would return at his option. Twice he narrowly escaped a cat,—once when on the ground hunting insects. The bird was knowing enough to dash through the lattice that enclosed the under part of the piazza, and this foe to the birdies could not follow him. From this safe retreat rose the bird's well known alarm-call, which brought his mistress to his deliverance.

A second feline adventure came near being more serious; nor can there be any doubt that the resemblance recalled to the bird that serious catastrophe in the pear-tree East. This time Rob was shut in his cage, which was suspended in the usual place. A strange and remarkably vicious cat mounted the tree, and made a desperate attack on the cage. Rob cried lustily, and his protectress ran to his aid, but received a recoil from the fierce brute. The determined beast flew at the bird's protector, driving her in terror to the house,—then returning to the cage, and renewing the attack upon it. It was plain that the animal meant business; but so did the mistress, who at once came back with a broom and beat the cat away.

Should not this experience of the bird lead us to pause for a moment's reflection? This is surely an interesting cerebation to happen in a little birdie's brain. Years pass by, and an event of the utmost

importance to the individual life becomes forgotten. But something occurs in some respects similar, and the terrible scene of the past is like a flash reproduced to the consciousness. We need not bother ourselves about the terms automatic and reflex action; still points of much interest are forced upon us. Here the bird mind and the man mind act alike, and the material machinery is essentially the same.

IV

Of a summer evening Rob could recognize at a considerable distance his master returning home, and his delight would be expressed in a peculiar chatter. Usually a paper-bag was in his hands, the especial object now of the bird's attention, as it contained fruit, cherries, plums, or berries, as it might be, of which Rob was to have his share. Thus the appearance and even the mere rustle of the paper-bag had a significance for the bird. In fact, upon occasion, the paper-bag was used as a ruse in which Rob would get duped. Should the bird be remiss in coming at his mistress's call, it was only necessary to show the paper-bag. The bird's disappointment at finding it empty would be expressed in sputtering squeals of rage, in which paroxysm the innocent deceiver, the bag, would receive ample punishment in pecking and scratching.

A lady neighbor, returning from market, often brought him a bone. This was a great treat. The very exercise of picking off the meat seemed to add to the enjoyment of eating. Like his master, this lady would

be known at a distance, and was received with Rob's chatter of joy. But even this treat brought on a new trouble, — became, in fact, a bone of contention. That little red ant, which, though very minute, can cause great distress with its bite, was there in large numbers. These tiny creatures, somehow, found out Rob's bone. They would ascend the tree, in a procession like an animate cord, and then come down an overhanging branch to Rob's cage, and begin cleaning up that bone. It must be that the bird had been bitten by them; for when they appeared, he would cry out in apparent fear as well as anger. The only course to pursue at such times was the one so often justified by experience, to remove the bone.

V

Mention has been made of Rob's dislike of other birds. This extended even to his "counterfeit presentment" in the looking-glass. On Sundays it was an amusement of his master to take him out of his cage, and put him in front of the mirror. To Rob the vision of that other fellow set him wild with excitement. The feathers would be all fluffed, and with a size double his natural self he would dash at the obtrusive presence. Then he would stand on the large pin-cushion, with wings expanded and bill directed at his spectral foe. Another dash, perhaps a third assault, — but not more. Seeing no impression made, and may be a little mystified, he would give it up as an incomprehensible case.

His vantage ground in these encounters was the

large pin-cushion. Turning from his unvanquished opponent, he would set himself the task of pulling out the pins. This was the only mischief of which the bird could be accused, and as the pins were not swallowed it was a small matter. He had always been fond of picking pins off the floor, and when he found one he would toy with it and squeal over it in glee.

Though getting old Rob insisted on his ablutions, and the deeper his bath the more enjoyment. He delighted to get into the wash-basin, and would make the water fly most vigorously. The more splash the lovelier, for all the world like boys when bathing. He would come out of his bath as forlorn-looking as one could imagine, and it would take an hour to preen his feathers. As an explanation of how birds so soon dry off after such a soaking, it is only necessary to recall what has been said of them as hot-blooded creatures.

Now—for a queer statement. Though fearless and full of glee, when bathing in the way of his own sweet will, he was the veriest unhappy coward if left out in the rain. The first drops touching his cage would be enough,—and he would scream for his mistress to come and take him into the house. He probably got a fright on being exposed once to a short but severe shower of heavy, beating drops.

VI.

Rob's freedom in the garden was now almost unlimited, where he gathered worms and insects. He was

especially fond of spiders, which well-nigh made him a nuisance, as he would forage under the gooseberry-bushes and elsewhere, and by evening get into a bad plight, his entire plumage presenting an uncomely aspect from cobwebs and other adhering matters, which his mistress had to clean off before he was returned to his cage for the night.

His spider-hunting led to more serious consequences. The bird had an excellent trait in that he would answer the call of his mistress, and even come to her. An exception occurred, though probably only a seeming one as the bird was out of hearing. It was evening, and he could not be found. His mistress called, and the search was carried through the garden and into the street, but Rob gave no sign. The night had come, and the search was given up. The cage door was tied open with a string, in the hope that he might find his way back; but in the morning the cage was still empty. The search was now extended, the mistress calling as usual. At last the bird's response was heard, but very feeble, so that it was sometime before it could be located, when he was found in the iron protective grating of the basement window of a neighbor's house. He had forced himself between the bars in quest of spiders, and was unable to squeeze himself back again.

VII

The bird was restored to his cage, but in a weak condition. And soon a new mishap occurred. It had been a hot day near the end of July, and he had been

allowed his freedom in the garden. There had been company in the house; but as evening approached, the heavens darkened and looked so threatening, that the friends had left to escape the approaching rain-storm. Knowing the bird's terror of rain, his mistress went out to get him housed, and called "Billie! Billie!" in her wonted way. He answered, but not so clearly as usual, nor did he come to her as he should do. She found him under a gooseberry-bush, and took him up in her hands. I think it is better to give this account in her own words:

"The bird seemed to me to act in an unusual way, as if something serious was the matter. We put him in his cage, and as nothing further was noticed it passed out of our minds. I have told how, even to our annoyance, he always sang, and in high flute-notes a full hour before sunlight. The next morning he failed to give us his matin song. I went to the cage, and there was poor Bill squatted by the door, with the edge of it in his mouth—dead! The poor thing had been unable to call for help, and he had tried to get the door open so as to come to us."

Thus pitifully Rob ended his life August 8, 1878, being more than nine years old. The albinoism had made him an elegant creature. The entire tail feathers were white, so were the long feathers of each wing. In this way the distribution of the white was symmetrical and pleasantly effective, giving a handsome and boldly marked plumage, besides the finer points of form, which made him a bird of noble strain.

CHAPTER XI.

THE EXDOUS OF THE NIGHT HERONS.

I



GROUP of very fine birds is presented in the Heron family. They have large expanse of wings for great flight, long legs for wading or standing quietly in the water, and a crane-like neck and long sharp-pointed bill, with which to spear the unsuspecting fish coming within reach. Of the spearing capacity of this bird's bill an occasional unwary gunner has found convincing proof. It does not do to go carelessly near a wounded bird, for it has been known to drive its bill through the thick leather boot of the sportsman; and if the taller species can get a blow at a man's body, it will inflict a serious wound.

I cannot tell my readers the indignation I felt when one fine spring morning, as I was changing cars at a station, I beheld, nailed to the side of a barn, dangling and swinging in the wind, a splendid large Blue Heron! I learned that a man had shot him. "Why did he shoot the noble creature?" I demanded; and the reply was: "Oh, just for fun!"

The incident caused a digression in my lecture that day, as it gave opportunity for some warm words on the immorality and inhumanity of killing beautiful animals, for no better purpose than fun.

II

The genus *Ardea*, which is the Latin for Heron, has been divided so that we have now another genus. *Nyctiardea*, which is composed of two Latin words, and the meaning is Night Heron. This genus contains two species, the Yellow-Crowned Night Heron and the Night Heron proper, oftener called the "qua-bird," or "quawk."

Among our most showy birds, although far from graceful in many of its movements, is this Night Heron (*Nyctiardea gardeni*, Baird), which I have introduced above. If fine feathers make a fine bird, then assuredly our *Nyctiardea* deserves consideration. The bird when adult is over two feet long. It has a deep guttural cry, consisting of one syllable, slowly repeated, qua! qua! qua! This circumstance afforded the old specific name given it by Nuttall, *Ardea discors*, as also its popular names of qua-bird, or quawk. It is also known as the black-crowned night heron, the crown of the head and considerable of the back being a very dark green, approaching black.

In the nuptial months, the bird flourishes from the hinder part of the head, flowing backwards like so many 'accidentals,' three very delicate white plumes nearly ten inches long. If I might change the simile,

these pretty white filaments are suggestive of the white streamers pendant from the chignon of some fantastic bride. And the two sets of adornments are afflicted with a similar perverseness; for the bridal toggery of the one will insist on getting twisted, and *Nyctiardea's* nuptial head-gear also will snarl into one. But in this instance the thing after all is quite natural and becoming. Each of these white, almost thread-like, filaments is nearly cylindrical, owing to an incurving of the edge of the feather; hence the three do have a habit of slipping into one another, and making, as it were, a pretty imbricated cord or cue of ivory whiteness.

The general coloring of this showy bird is such as neither pen nor pencil can quite portray. Says Coues, who is a fine bird painter, when verbal pigments are concerned: "General plumage bluish-gray, more or less tinged with lilac; forehead, throat-line, and most under parts whitish." The bill is black and the feet are yellow. The space between the eyes is of a greenish-blue. As to the optics themselves, they are red. Does some one insinuate: "that is the way with night birds?" Let such an one consider that generally the owls have bright yellow eyes.

III

It was a number of years ago just as June, the busy bird month, was opening, when, accompanied by two of my students, I set out for a visit to a famous heronry, some three miles in a south-west direction from New Brunswick, N. J. The neighborhood is called

Three-Mile Run, because of a tiny stream about that distance from the city. We went first to the farmhouse near by, where a colloquy something like the following occurred:

"Do you know when the herons began to settle over there?"

"Well, sir, you see it is so long ago since the herons came, that it really is not possible to say when they did settle, but I remember them over forty years; and there was father, who had known them long before that. That heronry is fifty years old, if a day. And since I've known them they've come and gone every year, never missing once."

"Is that all the woods there were?"

"Bless you, sir, no. Once that was as pretty a piece of oak woods as one need put eyes on. It covered many acres, and we called it the swamp. Just that grove where the herons are is all that is left of it. We never attacked the birds, so I suppose they got to understand us, and to know that they were welcome. The felling the timber and tilling the land has pretty much done away with the swamps. You see there's only about two acres in that grove. But the herons were a good deal more numerous when the woods were bigger. I remember when it was most deafening to hear them. When we see them coming back in the spring we know that corn-planting is nigh; and when they leave in the fall it is usually time to husk."

With the two young men I now started for the heronry, five minutes' walk distant. It was evidently once a swamp. The grove was a remnant of a large

wood of red oak, and, as already stated, did not cover quite two acres of land. With an exclusiveness not unlike that of some wasted Indian tribe, these red oaks kept out every other kind of tree. They even pressed upon one another so closely that the lower branches, after a precarious growth, inevitably died and fell. Thus the trees with a small girth pushed up towards the sky, each one a slim mast about fifty feet in height, with a small dome of shining green leaves at top, the base of each little dome crowding upon its fellows. It looked to me like a garden supported on piles; but as the wind sprung up, there was such a wave-like movement overhead, that I wished for a balloon view, for I fancied I should see an emerald ocean floating in the air.

IV

The heron is a great consumer of fish, and if fish makes good brain food, perhaps this may have some bearing on the commendable circumspection of these occupants of the top-flat in this establishment.

My private opinion is that with bird-fishers, as with fishermen, this theory of the cerebral abstraction of phosphorus from a fish diet is not sustained by the facts. Our most sagacious birds are not fish eaters, and our along-shore people, whose animal food is almost wholly fish, are not especially remarkable for intelligence.

I was led to look for some peculiar effect on the plant life within the precincts of the heronry. But I

failed to detect any thing noteworthy beyond the surprising paucity of vegetation. Besides a few ferns, there was scarcely any thing on the ground.

I noticed that the females, whose incubation was not completed, did not leave their nests. I have no doubt that they were waiting further signals from above.

But what notice of danger, and necessity for change in the situation, can a bird give whose whole vocabulary is contained in the one monosyllable, qua? But do not philologists tell us that in some of the dialects of "The Flowery Kingdom," even a monosyllabic word may have eight significations if spoken in as many different tones? Thus, if a barbarian outsider might be allowed to improvise a bit of barbarous Chinese, one might say shoò, to mean lovely, or all right; and shoó, to signify awake, or all wrong,—and so on for the entire vocal octave. And pray, why not as much in the bird language?

As we entered the wood there arose a grand commotion. An old bird, perhaps the patriarch of the tribe, or, possibly a sentinel at his post of observation, sprang into the air with a startling "qua!" which, after a pause, as if to gather assurance, was repeated,—"Qua! qua! qua!" Up flew another, and another, then many, all joining in the one wild outcry of "qua! qua! qua!" as they circled in air, loath to let their nests be out of sight. It was a loud clamor of alarm, utterly unmethodical, and perfectly uproarious, while over the edges of the rude nests of sticks peeped hundreds of little callow heads in mute astonishment, as if to see what could be below to incite so great a tumult above.

V

Almost in the heart of that small grove I counted fifty heron's nests. These nests were high up in the leafy domes already spoken of. In some instances I noted three, and even four nests in one tree. Some writers I find saying that in the breeding season the qua-bird is less suspicious. Assuredly it seemed to me that these herons could not be more circumspect. To come upon them by surprise was impossible. From a distance no one can see them in their leafy outlooks, but they can see you; and should one approach too closely, the nearest male bird will give the alarm.

Here let me mention an incident. Not knowing that one of the party was behind me, making a feint of climbing a tree with a nest in it, I observed an increase of commotion in the air. To my question, "What are the quas doing," the answer returned was, "They are taking a bird's-eye view of the situation." I requested the young man whose conduct had created the stir above to climb the tree in earnest, and get a young one from the nest that we might see it. Now came a change in the bird talk. It was "qua!" still, but prolonged, and in a different tone, which was understood by the sitting birds, for they sprang from their nests and joined their companions in the air.

As the youth neared the nest the wild monotonous cry became painful to me, and I was anxious to shorten the suspense of the poor birds. Clinging to the tree, he took a young bird out of the nest, and held it out at arm's-length that I might see the callow thing, which was about as big as a fat squab.

Excepting on very dull days the quawk is entirely a bird of the night. Indeed, its pretty scientific name, *Nyctiardea grisea*, is literally the Gray Night Heron. As one can hardly suppose the owls to be pursuers of the qua-bird, its danger would only be when tempted from home in the day-time.

VI

Although they indulge in varied food, for I think they eat frogs and toads, yet these night herons are nocturnal fishers, and it seems to me that their fishing must be limited to the margins of streams, and in waters decidedly shallow. Yet just here Endicott's observations in the "Massachusetts Heronry" are apparently in conflict with my views. He says: "These fish were mostly such as could not be obtained in the ponds and rivers. I once saw a piece of a pout and once a fragment of a pickerel, but most of the remains were those of herrings. On the branches of some of the trees I have seen eels hanging with their heads digested off."

It may be that the difference is only apparent. My heronry was but three miles from the Raritan River, which at New Brunswick is pretty salt at high tide, hence in the season the river yields both fresh water and salt water fish.

These qua-birds must be expert fishers, for they catch large quantities. They sally out at twilight, though sometimes if the day is cloudy and dull, they will not wait till then. As they pass near, and

sometimes over the farm-houses, on their way for food they indulge in their peculiar cry, the effect of which on the stillness of the night is somewhat weird; though neither so ghostly nor so ludicrous as that of the classic bird of night, the owl. And very industrious must these night-fishers be, for with a voracious appetite of their own, and a good deal of really hard work to be sustained, their young also consume an enormous quantity of food.

Of this feeding tax upon the old birds Endicott's statement is very significant: "The young are downy, soft, helpless things at first; but soon gain strength to climb to the upper branches, where they hang on with bill and claws, and are fed by their parents till nearly full-grown. Two broods are often reared in a single year, and it is no uncommon thing to see four or five of the first brood sitting in the tree-top, while the nest below contains as many more of their brothers and sisters; both lots, of course, to be fed by their parents."

Only to think of it,—this double service, six to eight capacious maws of these insatiate young cormorants to be filled, or rather crammed, and how busy the old birds must be since their fishing is all done at night.

VII

In connection with the fishing of the night heron, I found a curious item of belief among those persons whose acquaintance with the habits of the birds

of this heronry reached far back. It was that the quawk, when fishing in the night, stood in the shallow water watching for its prey, and was aided in the matter by a soft light which emanated from its legs and feet. We had heard of luminous understandings, but they belonged to the higher vertebrates. I was assured that this phenomenon had been witnessed, the observers being out coon-hunting on a moonlight night, and I was asked if these birds had not the capacity of emitting light from some source in the legs, in some manner analogous to the phosphoric emissions of the fire-flies or lightning-beetles. Having in a modest way expressed my doubt as to the phosphoric hypothesis, I ventured to suggest that the yellow legs and feet of the bird, when withdrawn wet from the water, might have shone, reflecting the moonlight. But the emittent hypothesis held its own ground, being regarded, and perhaps rightly, as the more erudite of the two.

Let me not be understood as thinking that the notion of the heron giving light when fishing is impossible,—only that it is hardly probable. If caution must be exercised in accepting folk-lore, modesty is a good factor in its interpretation.

VIII

It was observed of the fledgeling qua-birds in Endicott's "Heronry" that they were clumsy at climbing, and seemed at every step to be in danger of falling,

and yet it was not easy to dislodge them. When they did fall to the ground they took to running at full speed, and could have escaped "did they not croak unceasingly as they ran." Endicott captured a young one which he kept several weeks. He says of his pet:—

"No confinement was needed, for he had no more idea of running away than my hens had. Early in the morning, and for an hour or two after sunset, he would walk away into the lowlands, but would come back to his perch regularly. He was unable to forage to his complete satisfaction, however, and would sometimes try to catch my young chickens. So I took to fishing for him, and then, to my sorrow, I found out what a heron's appetite is; and thought, with pity, of the poor parent birds in the swamp with six or eight such crops to fill.

"Five bream, as large as my hand, were not too much of a meal for him. He would catch them all alive out of the tub of water, by the middle of the back, toss them up until he got them into the right position, head-first down his throat; then he would swallow them by dint of great exertion, his neck presenting a curious appearance, as the fish—four inches broad—passed slowly down, making occasional convulsive attempts to struggle; a proceeding which seemed to enhance the pleasure of the bird.

"I once gave him a dry dead fish, which he got half-way down, where it stuck. He tried and tried in vain to swallow it; then he made equally futile efforts to disgorge; then he turned his eye on me reproachfully, and imploringly, so I was fain to take

him between my knees, and tip up his bill, and pour water down with a spoon, until the dried-up slime became again moistened, when, with a long pull, and a strong pull, the bird engulfed him, gave me an ungrateful look, and stalked off with a 'q-u-a-w-k!'"

IX

This pet was only kept a few weeks. I will give the story of one kept for nearly a year. My pupil, who climbed the tree to show me the young bird, a little later that same season, secured one of the fledgelings, which he successfully tamed. He became an interesting pet, though hardly of the amiable sort. He had the run of the premises, especially of the barnyard, and was blessed with the appetite of a glutton. To this insatiable craving fowl, flesh, and fish were alike acceptable. Though he was descended of kindred who had always wintered in the warm southern climes, he withstood the winter, a severe one, admirably. In this way he met with experiences which were not at all inherited, and decidedly novel.

He greatly relished soft fresh meat when cut into convenient morsels. The same meat hung in the barn would get frozen. In this condition it had to be cut up with a hatchet. A bit of frozen fat thrown to the bird evoked conduct of a humorous character. Suspecting nothing, the bird attacked the coveted morsel, when, after some queer contortions, the half-swallowed delicacy would be suddenly eructed with the quaintest demonstrations of astonishment and distress, much as

a child who on an extremely cold day in winter, dancing with pain, complains that the door-knob has burnt his fingers. But though embarrassed by the situation, the young qua would repeat his efforts to get the frozen meat well down, until success resulted, when he would come for more; so that in this conflict of bird-thinking, the judgment that the meat was good prevailed.

A very impudent bird did the young qua grow up. Through the winter months the arena of his daily exercises was the barn-yard, which also was the scene of occasional night activities quite annoying to the more orderly disposed denizens of the place. When Chanticleer gave forth his nocturne there came the heathenish response, "qua! qua! qua!" or perhaps varied with the more barbaric, "quawk! quawk! quawk!" making midnight ghoulish, and inspiring the hen-roost with disquietude and disgust. Among the domestic animals of the establishment he was the one incorrigible ingrate,—an impersonation of impudence.

His movements, even when "feeling good," were always awkward, and in no sense graceful; while from the depth of his inner consciousness was evolved a conduct so absolutely graceless as to almost indicate a deep-seated depravity. He would pursue the domestic animals, harrying the poultry, and even the old dog, presenting a formidable bill to those who owed him nothing, not even their good-will. Seeing that the word pet should have in it an implication of affection, the epithet in his case was a sorry misnomer.

This denunciation is very sweeping, and one is led

to look about for some condonement. Well, to one person he did show a little regard. He knew his young master well, and paid him a sort of deference which he did to no one else. But though there was a kind of attachment, affection there was none. In fact, his master was simply his feeder, to whom he was drawn by a very active appetite. This craving for food satisfied, even his keeper was but little more to him than any one else.

X

At length the cold season was over and my young friend was glad to know that he had wintered his charge safely. He had begun to speculate how much longer he would have to keep the young qua-bird ere it would attain to the plumage of its parents, for it had not yet put on the *toga virilis*. The plumage of the adult bird is in general a "bluish-gray, more or less tinged with lilac." The feathers of the head, shoulders, and space between them are a "very dark glossy - green." The "forehead, throat-line, and most under parts whitish." The young are quite different. They lack the pretty plumes. Their general color is a "grayish-brown, paler below, and extensively speckled with white."

The spring is well advanced, and the pet is over ten months old. See, it is looking skyward and southward. Nay, it seems listening. Sure enough, the cry of "qua! qua! qua!" is heard in the air. The herons are coming. The cry is from the avant-courier of

the returning community. As the young bird looks up he is evidently undergoing a change in his feelings. There is another outcry as if from the second outrider of the approaching host. The pet heron seems well-nigh beside himself. He has never seen the "sunny clime," but he has caught that mysterious passion, the semi-annual frenzy of these birds. His bird nature seemed suddenly developed,—and the bird soul is now above pellets of frozen mutton, and the communion of fowls and dogs. Now the qua-cries are thickening in the air, and the herons are coming fast. All this is too much for the young bird, so he is on the wing too, and away to join his tribe. Notwithstanding kindness received, he has cut himself from the white man and his ways, and he takes his leave with a "qua! qua! qua!"

One would like to know how, with his superior education, this young person conducted himself upon his return to the tribe. Had he grown conceited? Also, how did his own folks, the old quas, receive him? Well, this much must be said, as affairs will prove in a few days, he will find need for all his knowledge. The youngster rejoined his tribe on the eve of an event the most remarkable in its history, one which might afford scope for the best exercise of bird wisdom, whether inherited or acquired.

XI

On my table, at this writing, lies a pretty egg. It is from a qua-bird's nest of that same heronry,—and

the shapely thing seems to give inspiration for my task. It is really beautiful in its symmetry, also its one attractive color, with neither spot nor stain. The larger diameter is two and one-sixteenth inches; the lesser, one and nine-sixteenths. Of the color I should have said above, it is a lusterless, waxy pea-green; though some call it a sea-green. And what an interesting object it is to me! and how sad is this interest. At the beginning of June, soon after the escape of his young charge, my pupil who acted as guide to the heronry brought me this egg, and with it the startling intelligence that the herons had gone! The community had returned at the usual time, and begun nesting, but they broke up and left.

It happened that trade being dull in New Brunswick many operatives were out of employment, and of these not a few spent their time in a wanton worriment of the birds. Some went into the heronry, although strictly private property, and near the homestead of its owner, and, in despite of his earnest remonstrances, a few shots were fired. I am told that not more than two herons were killed. Had this happened away from their nesting-place that would have been of less moment. But here in their cherished abode, it was too much for these birds,—so timid and so circumspect. The result was their departure from their old home.

What a resolution was that taken by these birds, every one of them. It was not a pair or two. It was the exodus of a bird nation! A self-eviction from their ancestral domain. And how grandly prompt the performance. Fitting hour it was, too, for so sad

an act,—they left their home in the night,—thus disrupting the bliss of the nuptial month by accepting a homeless uncertainty. That entire colony abandoned the spot where they and their ancestors had dwelt for fifty summers.

In premature maternity one bird, at least, had been compelled to lay her eggs, and then must leave them behind. And this pretty treasure on my table is one of the two eggs thus laid. Interesting? Nay, is it not historic, a memento of this remarkable exodus of the night herons from their almost romantic heronry at Three-Mile Run, New Jersey. Do you ask, “Did they hold together as in a well-ordered retreat? And did they establish a heronry elsewhere? Or did the dispirited community dissolve itself into the isolation of single pairs? And, finally, where did they go?” Well, just these are the things which I am hoping some day to find out. Meanwhile, let this much go on the record, of the time, circumstance, and spirit of the exodus of this ancient colony of birds.

XII

I am delighted in being able to supplement the above with another evidence of the love of birds for contiguity with the abodes of men, if they are undisturbed. The following I find in the “Swiss Cross.” It is by my friend J. L. Zabriskie, an accomplished naturalist:—

“The Night Heron, *Nyctiardea grisea*, more popularly known as the ‘quawk,’ under the attempt to apply a

name representing the peculiar, monosyllabic note of the bird, although a wary creature, occasionally will maintain a very populous heronry near the residences of men.

“But it may perhaps be a matter of some surprise to observe that they are found to have maintained a home for a number of successive years within the limits of so large a city as Brooklyn. In Prospect Park, the beautiful pleasure-ground of that city, bounded on two sides by horse-railroads, approached on a third side by steam-railroad, and on the fourth side separated from the populous suburb of Flatbush only by a thoroughfare and the Parade Ground, where occasionally there is heavy firing of both musketry and cannon, these birds have built their nests and reared their young for some years past. Mr. John Y. Culyer, late superintendent of this park, says that six years ago both the night heron and the blue heron nested there.

“The Night Heron, as might be inferred from the name, remains quietly at home during the day, and sallies forth on fishing excursions at night. The colony here mentioned habitually leaves its herony in the evening twilight, in pairs, or in groups of five or six, sometimes each bird being separated from its fellows, at other times a group keeping quite compact, or forming the remarkable ‘V’ seen in the flight of wild geese. They rise to a height just beyond easy gun-shot, but not so great as to prevent us from easily observing the measured beat of their broad, heavy wings, and plainly distinguishing their peculiar cry, and then they take the direct course for the sedgy islands and shallow

waters of Flatland Creek, the nearest salt water on the south coast of Long Island, distant about four miles.


“Our home is situated just in their line of flight, so that we have a good opportunity to recognize them, and bid them good-speed at evening. They set a good example of punctuality at meals. Frequently, during July and August, while sitting upon our piazza, some one of the family, when twenty minutes past seven o'clock approached, would remark, ‘It is nearly quawk-time.’ And sure enough almost immediately we would hear the familiar note sound on high, and begin to count the birds as they hurried towards the sea. One evening we counted twenty-six of them without moving from our station.

“Occasionally, we have been awake early enough to hear them returning to their heronry about four o'clock in the morning. This passage to and from the water continues until the sharp frosts of late autumn occur, and then the birds migrate to the south.”

CHAPTER XII.

THE CUCKOOS—NATURE'S UNNATURALS.

I

F all foreign birds the common Cuckoo of Europe, perhaps, draws the least upon our estimation for commendable qualities. The Crow tribe, though arrant knaves if any thing stealable is exposed, yet have the merit of good conduct in their family relations. The one charming virtue of birds, generally, is devotion to their young. Yes, and fidelity to each other. Indeed, conjugal affection is exhibited in some of the species in a manner that is really affecting to behold.

A farmer neighbor had a pair of tame turtle-doves, which were allowed the freedom of the place, and whose attachment to each other was a very pretty sight,—in fact, they were almost continually billing and cooing. From some cause the female died, and the farmer had it mounted by the village bird-stuffer and set in his parlor. The lone bird was very unhappy,—he ever seemed to be pining over his loss. One day the parlor-door having been left open, the forlorn dove was heard cooing as if it were

spring-time. The poor fellow had found his mate, the stuffed bird on the parlor table, and was doing his best to attract her attention, but all in vain.

Not less than astonishing are the sacrifices which birds make for their young ones. Great is the labor of nest-making,—unlimited the patience during incubation,—and what exhausting toil in procuring food, and filling the hungry mouths of the callow brood. No ordinary devotion will suffice for the raising of a bird's family. And then such heroism as is shown when defending their offspring. But the cuckoo knows nothing of such matters. He is a heathen among the orderly birds.

Cuckoos are to be found of many species, distributed over the larger part of the world, manifesting great differences of habit. In truth, with such closeness of anatomical structure, these deviations from the normal conduct of birds are not to be accounted for.

II

Two birds especially are embalmed in the rhyming folk-lore of the people of the British Isles,—the Robin Redbreast and the Cuckoo. The former is with them all the year through; and the latter, as a migratory bird, opens the calendar of the spring-work to the husbandman,—when the cuckoos have come, the ploughshare gets bright. He is the weather-bird of the farmer; and when he appears in April, it is an assurance that the sun will now in earnest warm up the cold ground. Hence, the local rhyming about

the cuckoo deals chiefly with the progress of the summer.

I have heard many a doggerel sung about the cuckoo by British boys. For Robinet, it would be easy to compose an anthology of some dignity, but to do this for the cuckoo would be a very homely affair. The following is a string of these simple ditties,—

“The Cuckoo is a merry bird,
He sings as he flies.
He brings us glad tidings
And tells us no lies.
It’s Cuck—koo! in April,
And Cuck—koo! in May,
And Cuck—koo! in June
And then he flies away!
If in July he tarry,
Still he will not marry—
But his singing he can’t keep up,
But stutters with the hiccup,
Till living all alone,
He’s as dumb as a stone—
But come August,
Then go he must.”

But as with our robin, the cuckoo can come unseasonably,—for premature arrivals have been noted on a spurt of fine weather even in February,—and then, just as with us, an untimely robin will do, he disappears, no one knows how or where. Still, in

the main, the above doggerel puts in natural sequence some peculiarities of this bird. The cuckoos are migrants, and many of them doubtless make their winter homes in Africa.

The bird does its best singing upon its arrival—generally in April. It can hardly have the soul outpouring of a nuptial song. But its best, such as it is, may be carried into May and June. The song is simply a slow deliberate repetition, in a minor key, of the two syllables which compose its name. Though it soon becomes a little monotonous, it is really very pleasant when first heard, having in it a warm melody as of a tropical clime, while its minor key imparts just a touch of an almost weird-like tenderness.

III

Having heard the bird, I can recall this curious impression,—its similarity to human vocalization. Hence the ease in imitating the bird's note, which is often done by English boys, frequently to the deception of the bird. The two syllables are clearly separated, and the second is prolonged with a musical cadence. Instances have been noted in which a bird has done his singing in the major key; but, instead of the softly prolonged intonation of the minor, the major is apt to be hard and even jerky.

The bird loves the shelter of the coppice, and even the depths of the woods, and is rarely seen except in the dawn of the morning and in the evening, when its call-note is frequently heard. But it indulges

in its peculiar cry at all hours of the night, when especially the sound is weird-like and almost unearthly. It seems to be so far away and dreamy,—as if it might be the plaintive utterance of the woods. I do not wonder that Wordsworth should write,—

“Oh, Cuckoo, shall I call thee bird,
Or but a wandering voice?”

After saying that the bird has a sort of human vocalization, I was gratified to learn that an authority had averred of this single-toned call of the cuckoo, that it possessed high musical merit; and that the bird sang in strict accordance with musical numbers, its notes being the fifth and third of the diatonic scale. *Cuculus canorus*, the Singing Cuckoo! A name of similar significance is given the bird in several languages,—for, as the harbinger of summer, its simple song is pleasant as the welcomed voice of one who is home again after a long absence.

“It sings as it flies.” Yes, it is musical when on the wing, and also when perched in a tree. Then, he can take on antics, for lifting and lowering his head with each note he will hob-nob with the ladies, and get so vain about his personal appearance,—for he is a neat-looking gallant,—that with each gush of “cuck-oo!” he will spread out his tail turkey-wise, and swing himself round, as if he were pirouetting on a turn-stile. I can’t say what he means by it; but he then can utter a single liquid note, “quille,” five or six times in rapid succession.

And quite curious is the stutter of the bird in June or in the advanced summer. It is as if he had been on a spree, and sentiment had got mixed and expression thick. It is like this: "cuck! cuck! koo! cuck! cuck! koo!" and it will even get the cart before the horse, as in "koo! cuck! cuck!—koo! cuck! cuck!" It is actually hiccuping a series of gutturals.

IV

The bird leaves early for migration, though a few may be seen in the first part of September, if the season is unusually fine, yet as a rule the doggerel is correct,—

"Come August
Go, he must."

For some time ere it leaves the bird is silent or nearly so.

As to form, the cuckoo is truly an elegant bird, and has a plumage agreeably colored. The prevailing tint is a greenish-gray, fading off into white, with a barring and mottling of a silky brown. The large showy tail is fan-like, spotted, and edged with white. The plumage of the sexes shows very little difference.

But our singing cuckoo, for all his fine feathers and his welcome song, is really a vagrant,—a sort of avian tramp. There is an uncanny mystery about the fellow. The tribe holds its own among the birds, and yet *Cuculus* has never reared a family, nor even built a nest. This serious business it imposes upon the respectable birds; and, as if unfairness were the order

of these fellows, they never take one of their size, but always choose the small birds for their dupes—the hedge-sparrow, yellow-hammer, pied-wagtail, and the meadow-pipit—pretty little innocents, being most often the subjects of the imposition of having the cuckoo's eggs smuggled into their nests.

If these vagrant cuckoos could see the moral side of their conduct, they would have reason to be ashamed of themselves. But, if it is difficult to charge improper motives, it is easy enough to see the objects gained by such strange proceedings.

V

First, the nests of the small birds elected are all compact and cozy structures,—in fact, in the bird sense, very comfortable domiciles. But in the second place,—an important consideration,—the eggs are very small; out of this arises a prime advantage, the cuckoo's egg being much the larger, the foster-bird sits upon it, imparting to it the larger share of the incubating heat; thus the sitting bird does for the parasitic egg better service than she does for her own little gems.

Another interesting fact about this one big egg is, that the cuckoo does not overdo this matter. The truth is,—for the size of the bird,—the cuckoo lays really a small egg, one which is not too large for the little bird to hatch. And now comes in another strange necessity for which the cuckoo is structurally adapted. She does not sit in the nest to lay,—this would take

too much time and often be quite impossible. Having found a nest, she gets her egg ready for the first opportunity when the owners are absent. For a bird her proceeding is extraordinary.

A cuckoo, as belonging to the *Scansores*, or climbers, has peculiar feet, called by the hard word, zygodactylic, from two Greek words, meaning literally "yoke-toed." The toes of the foot are paired, two pointing forward and two backward, so the bird can grasp a branch or other object with ease. Besides, for facility of use, one toe of the hinder pair can be turned round when needed. And, what is quite unusual, the gullet is capable of expansion into a sort of temporary wallet.

Now hidden in a coppice let us watch proceedings. What is the bird about? She is on the ground. There, she has deliberately dropped an egg! Curiously, she flies off just a little way, carrying her treasure tenderly in one of those strong-toed feet. Ha! see! In that pretty hawthorne is a hedge-sparrow's nest. The dear birds are enjoying a bit of emotion. The female has just laid her last egg, the fifth. This makes the complement. So, before entering on that trial of patience,—incubation,—they will both go off for a few minute's relaxation, and to get a good fill of insects to begin work on. Oh, that cuckoo! She has been watching; and she has marked her opportunity. That egg is now laid upon the ground, and taken up into the beak, then into the expanded gullet. In a trice, she wings to the nest and deposits her egg, and is away with a note of exultation. Immediately the little

birds return. What now! What means this big, gray, speckled thing among these pretty pure turquoises?

To the birds at their return this is truly mysterious. Those little noddles don't know what to make of it. And so accepting the situation, the female bird begins at once her long task of hatching the eggs. In this, of course, that big specimen of imposition gets the most heat. Some of her own pretty gems may get hatched, but some will spoil. Strange to say, the big hungry callow fledgeling exacts and receives nearly all the coddling of the foster-parents, even though their own true offspring perish. And this care to raise the foster-bird is exercised, although the unnatural little fellow right under the eyes of their parents will literally murder the rightful young ones.

Here, then, comes to light another of those seemingly strange provisions of nature, for the young cuckoo has a singular adaptation to compass his selfishness; and still more curious is it that, immediately after this fratricide has done his unnatural work, this part of its structure, no longer necessary, undergoes a rapid change, and in a few days disappears.

Just as soon as hatched the callow intruder, almost naked and even blind, shows a restless uneasiness to get at its miserable work, which is to oust the other young and the unhatched eggs out of the nest so as to have entire possession. The tail is rounded at the ends and is strong,—the shoulders are wide, and between them is a dorsal hollow, or depression. The wretch, though blind, wiggles the tail under the young bird with an upward flip, brings it into the depression on

the back, and then erecting itself upon its feet tilts the little one over the edge of the nest to perish miserably. All this done, it receives the entire feeding attention of both its foster-parents,—growing rapidly, and in the short space of ten days the depression on the back disappears.

VI

It is a painful task to give any young person over to a bad character; but at the risk of branding the young cuckoo as a heartless murderer of his relatives, the facts must be stated.

In Scotland, a little titlark built her nest in a hole in a bank, and in such a way that only one side was open to the light. She had two of her own eggs, and a cuckoo had poked her own parasitic egg in besides. In this case the titlark's two eggs got hatched first, and the little ones were feathering fast. But soon the big, bad brother came out of his shell. Naked and blind, he at once went at his monstrous work,—the turning of his helpless little brothers out of house and home to die miserably,—which wicked act was all done ere the little imp was two days old. But in order to understand how purely murderous the whole business was, some detail is necessary.

Even before getting his eyes open, the young ogre would keep at it until he had got one of the tiny titlarks well up on his back, and into the dorsal hollow between the shoulders. Then he backed up to the side of the nest where the light came in, although he was blind. But even then he could not get his little

brother over the edge of the nest,—so he actually clambered up backwards, by sprawling his toes into the sides of the nest, and then over went the poor little thing down the bank. In a like manner this infant monster disposed of his other little brother.

It happened that a kind lady saw the two suffering birds, and restored them to the nest. But with the same murderous energy the young cuckoo ousted them again. Still they were a second time replaced by the lady with the same result. Three times was all this done. Now the lady found them cold and dead, and in this state she restored them back to the nest. The motive of the unnatural young bird was now plain enough. He let the little dead bodies alone,—though how easy to put them out, now he had got his eyes open, and had much stronger grown! But his object was accomplished,—they were dead, and he now had become the sole object of care to his foster-parents. We shall soon find that, actuated by the same motive, the young cuckoo will not spare even his own natural brother under similar circumstances.

VII

The cuckoo only lays one egg in a nest, though occasionally two eggs have been found. But it must be that the female bird has an instinctive knowledge that such would not be a wise practice, hence it is almost certain that these were deposited by different birds. In this way came about the following strange incident:

Two cuckoo eggs were laid in the same nest, and the instinctive selfishness of the blind things showed itself as soon as they had left their shells. At once they entered upon a fierce contest for the sole possession of the nest. One time one bird would get the other nearly to the edge, without strength enough to throw it over. Then both would fall back into the nest overcome with their efforts. So the strife went on,—one time the advantage being on the one side, then on the other. In this way the two combatants, though blind, kept at it, until the afternoon of the next day, when the stronger bird at last got his brother over the edge,—and thus secured the entire attention of the foster-birds.

Is there a fascination in this matter, or what causes this unnatural subordination of affection? Says Chambers: "A pair of meadow pipits usually accompany the adult cuckoo wherever it goes. The reason of this curious fellowship has not been ascertained." In the following, Sterland narrates something he witnessed in Sherwood Forest, which shows the devotion of the foster-bird:

VIII

On the 20th of August, 1860, I witnessed with great interest a pied wagtail feeding a young cuckoo. I was crossing the bridge in the village, when I saw the cuckoo perched on the upper rail of a fence which divided the meadow from the stream, the spot where it sat being about fifteen yards below the bridge. The stream was shallow, and partially filled

with weed-beds, and on these the wagtail was running in its usual rapid manner, seizing first one insect and then another, which it directly conveyed to its foster-child on the fence. There the great overgrown baby sat, eagerly receiving the food from its tiny friend, but looking far more able to provide food for itself.

I stood on the bridge, watching the pair for a quarter of an hour, and during the whole of this time the wagtail was constantly feeding the cuckoo, which sat so quietly that I thought it was unable to fly far, and that perhaps I might effect its capture. I accordingly got over the hedge into the meadow, and went cautiously towards the spot, which it allowed me to do until I was about three yards from it, when it flew off and settled on a hump that stood in the meadow at a short distance. The poor wagtail seemed distressed, and followed it to the hump, where it again resumed its feeding. On my approaching a little nearer, it again took flight, but with such strength of wing as to convince me that I had been mistaken in thinking I could make it a prisoner. It settled on top of an alder-tree, and from there flew out of sight, the little wagtail faithfully following in its wake. It was evidently a strong, vigorous bird, equal to a long flight, and doubtless would soon take its departure in the migration of the tribe to a sunny clime.

IX

I think this action of the pipit caring for its young foster-bird so late in August indicates that the cuckoo

lays through a long season. And, perhaps, in this fact we may find an apology, such as it is, for the parasitism of these birds. It is not known how many eggs a cuckoo will lay. The probability, it seems to me, is strong that the bird lays at long intervals, in which case it may even be that the bird could not hatch all her eggs, the first ones spoiling before the last are laid.

The American yellow-billed cuckoo has become naturalized in England. This is the caw-bird, or caw caw—so called from its metallic, or conchy, clamor in the woods. It is a true cuckoo, though with no parasitic habits, but in all respects a beautiful and well-ordered bird,—building its nest and rearing its offspring in a becoming way. Now, it has been observed of its young, that the same nest has contained individuals differing so much in size, as to suggest differences of age, and that would indicate periods between the laying of each egg long enough to bring about the differences observed.

A learned German went to some labor to build a theory that the common cuckoo had the faculty of so modifying its eggs in color, as to resemble in this respect the eggs of the birds in whose nests she had smuggled her egg. Some years ago this notion raised a great controversy abroad, but it fell to the ground as a mere fancy.

X

Wood, on the authority of a lady correspondent, gives an instance of a cuckoo feeding its young.

Naturalists give no credence to the statement, regarding the observation as erroneous. This bird has the evil charge laid to it of being addicted to sucking the eggs of other birds. I do not know why, but it is regarded by the swallows as an enemy. Let a cuckoo come near their homes, and they will do as they do when a hawk is nigh. The first bird which sees the cuckoo will give a scream, which is a signal, and on the instant the swallows will gather, and, in their dashing way, will make the intruder glad to save himself by flight.

I have wondered what all this could mean! Why the swallows should act thus when a hawk is near is plain enough. But the cuckoo cannot harm the swallows, nor can he trouble their nests. Have these bright creatures an instinctive abhorrence of this bird that neither pairs nor builds a nest? "The hen-bird has no maternal affection, no domestic tenderness. The male bird has no mate, and no paternal solicitude." Nothing to make sacrifice for, nothing to be devoted to,—his only heroism is when in a spurt of cross-grain temper he meets another male, and they have a ferocious set-to, a fight about nothing.

This clinging devotion of a mother-bird is almost sublime. How tender it appears in Gilbert White's description of the "Cutting Down of the old Raven Tree":

"The fatal day arrived when the Raven Tree was to be felled. It was in the month of February, when ravens usually sit. The saw was applied to the butt, the wedges were inserted into the opening, the woods

echoed to the heavy blow of the beetle, or mall, or mallet; the tree nodded to its fall, but still the dam sat on. At last, when it gave way, the bird was flung from her nest; and though her parental affections deserved a better fate, she was whipped down by the twigs which brought her dead to the ground."

Such devotion,—in fact, all these high experiences so near to the human, are denied to this unnatural bird. But the following, from an actual observer, though it repeats a little that has been already adduced, is so happily expressed that it shall close this memoir:

XI


The cuckoo has some odd tricks which have seldom been noted. For instance, she seems to find out some small bird's nest, say in a hole in the wall,—too small by far for her to enter. In this case she squats upon the ground, lays her egg, and then, with bill and claws takes it up, and pokes it into the hole,—after which she flies away, shrieking her awfully monotonous song, may be exulting over her mean trick. In a forest in France we used day after day to watch this smoky-blue traveler, as, in the dawn of a summer's morning, she flew across the leafy glades, or down the glens, resting her weary feet for a moment on some giant bough, and then shooting away through the soft, green light, repeating her strange and ominous cry. What is the original country of the cuckoo? Has she any original country? Or is she one of those wretched cosmopolites who know no attachment to any hallowed

spot, no love or knowledge of parents, having been brought up by strangers, who regarded her from birth as an ugly changeling thrust by some evil spirit into their nest? Surely the cuckoo is to be pitied, since she knows no home, has never seen a hearth, or experienced the soft care of fabricating a nest, or the gentle patience needed in hatching an egg.

CHAPTER XIII.

THE COW-BUNTING—THE BIRD PARASITE.

I

E have almost at our doors several species of the cuckoo, and happily not one has the bad reputation of their cousins in the Old World, which, as a lover of American birds, I state not without pride. Somebody has tried to say that our yellow-billed cuckoo will, upon occasion, drop an egg into a robin's nest. But as there is no proof, I set it down as a libel upon birds which mate and conduct themselves becomingly,—bringing up their families in an orderly way. This elegant creature is called improperly by some the cow-bird, from its singular cry in the woods. The note is "caw! caw! caw!" repeated many—perhaps about a dozen—times at a call. It begins very loud and fast, becoming slower and lower until it seems to die a great way off.

I have described the sound as conchy, because it is somewhat like that of striking two shells together. This curious call is made deep in the leafy forests,

and occurring often about the time of a shower, has earned for the creature the name of the rain-bird.

It builds a well-constructed nest, and has a habit quite unusual among birds,—it will begin sitting immediately upon laying its first egg, so that the little birds are really of different ages in the same nest.

By some mistake or accident in migration, a pair of our yellow-bills reached England and have become naturalized, for the birds are breeding there. So, as naturalists say, the American Cuckoo has become established in Old England, and his conchy clamor adds a unique variety to the bird music in their woods. But though making his presence felt, and setting a good example of the avian proprieties, it is too much to hope for a reformation in the family affairs of his unnatural cousins, whose irregularities have come up from the far distant ages.

II

The above has seemed necessary, that we have no confusion in the separate identities of the rain-bird and the cow-bird.

With the early summer, or so soon as the virgin grass invites the herd to meadow, a flock of cow-birds arrives. And how persistently they seek the companionship of the cattle, whether in the pen or in the field. Their way of earning a livelihood is somewhat peculiar,—now on the ground, scratching into the ordure, and then perched upon the backs of the animals they are busy picking off the flies, and even extracting the wurbles or larvæ of the bot-flies, which have burrowed

into the skin. The bird is said to be in search of the intestinal worms which leave the cattle in the spring droppings. It is, in truth, an omniverous thing, eating seeds and insects, many beetles of the Copridæ family being attracted by the ordure of the herd.

I have called this contact with the cattle companionship. True,—the birds are there chiefly for what they can get, and perhaps there is a spice of human friendship on both sides. But it is evident that the quiet ruminants like the services of these little sable-coated birds. And this associating with domestic animals begets familiarity; for, where not molested they will hover closely to the herdsman, both in the pasture and cow-yard.

As for comeliness these birds can hardly be complimented. Of their beauty, either in form or plumage, not much can be said. The male is a dense black, but it is almost a dead color, having but little of that exquisite radiance of the solar hues, by which the crow-blackbird or purple grackle is so distinguished. And as respects the female cow-bird her garb is very unpretentious,—in fact, she is quite demurely clad, her single colored dress being a drab which seems to emulate the chimney soot.

In the advent of summer, when the flowers irradiate the soil with smiles, the birds make tremulous the air with nuptial songs. But as the cow-birds do not pair, the unsentimental things can hardly be supposed to know what conjugal affection means. They come trooping together to a place, pretty much all at once. In the great West these flocks are very large.

With the birds there is society, and there is the rabble also,—

“The swallows wheeling on the wing
Capriciously at play.”

And “the sable crows,”—

“The miry beasts retreating from the plough.”

And there are some folks who like to live in a crowd. The racket and the rush is to them companionship. The cow-birds are gregarious,—but they never mate. Nuptial gladness is out of their experience, not that they are the Stoics of the birds, for there is something resembling frolic, though in a weakly way, as shown in their gurgling rattle. Their best enjoyment comes when the whole flock, like a mild riot, falls to upon a generous provision for “the keen demands of appetite.” The cow-bird belongs to the ignoble crowd; and though, as we shall find, he has an interesting history, yet a bird so undomestic can not be written up as a darling fellow.

III

Dr. Coues says of these birds: “Their most intimate relations are no sooner effected than forgotten. Even their courtship is a curiously mixed affair. During the period corresponding to the mating season of orderly birds, the patriarchs of this sorry crew of vagabonds, some mounted in the trees, others perched on the fences, get up a ludicrous attempt at what they seem to think is singing. These lords of the

gentle sex put on the airs of an exquisite. They strike imposing attitudes,—posture, and turn about, and ruffle their feathers, that they may look bigger than Nature made them. And such the inflation achieved, that if their skins were not tough—at least so it seems—they would certainly burst with vanity.”

And viewed as musicians, what comical expressionists they are! They puff out their throats, and pipe the most singular notes, perhaps honestly wishing to please their companions of the other sex. At any rate the performance is to their own satisfaction. But they do not seem to enkindle much enthusiasm in the breasts of their female auditors, whom it surely would be straining a point to call admirers. They appear to take it all simply as a matter of course. They may be listening at times; but they are just as likely to be preening their feathers, and perhaps entertaining other thoughts not in harmony with the opera to which they are listening. The amatory concert over, the whole precious set in a very matter-of-fact way goes trooping after food to the nearest cattle yard or pasture, where a herd may be grazing.

From generalities let us come to particulars; for, after that plain talk about the foreign bird, some one seems to whisper “look at home.” Yes, and in the main, we will boast of the good conduct of our American birds. But even in the best household may be found the prodigal son. And so in our grand bird family, an exceptional creature turns up to spoil the record. This is the cow-bird,—the one professional parasite of the feathered race in America,—having the worst traits of the cuckoo with none of its celebrity.

VI

The cow-bunting is an unnatural bird. She imposes upon others the task of raising what should be her own dear offspring. Beyond depositing her eggs in the nests of other birds, usually one in each, the creature does nothing for the perpetuation of her own species. No female of this fraudulent race could possibly sing the ditty to any little cow-bird,—

“Rock-a-baby bunting,
Papa’s gone a-hunting.”

“Gone a-hunting!” Do you mean providing for the family? Not he! What can he care for the “baby bunting?” Why, he never saw a cow-bunting egg, let alone the baby bird! And the mother is as heartless as the father; for no more than he would she know her offspring should she meet it.

Here, then, is another mystery in nature, meaning of course, something beyond our present knowledge. And what a strange exception to the instincts of the feathered race. As a class, the birds are especially exemplary for their care and defense of their young, many of them showing upon occasion a self-sacrifice and a heroism little less than sublime.

But to all this nobleness of the bird nature the cow-bird is a stranger. She imposes upon birds, almost always those smaller than herself, the caring for her eggs. As designated by Mr. Trippe, these are the following, all of a noble strain: The red-eyed and the

white-eyed vireos, the Maryland yellow-throat, the blue-bird, and the indigo-bird, the chipping and the song sparrows, the yellow-warbler; the golden-crowned, (Wilson's,) and the wood-thrush; the blue-gray fly-catcher, yellow-bird, towhee bunting, the black and the white creeper, the purple finch, and the bay-winged bunting. But the favorite nursing birds, thus chosen by the parasite, are four,—the two vireos, the Maryland yellow-throat, and that exquisite little finch, the summer yellow-bird. Besides being fine nest-builders, these birds are gentle creatures and most exemplary in the rearing of their young.

V

One cow-bird's egg in one nest is the rule, but to this practice, as well as that of selecting the nest of the smaller birds, there are exceptions. A creeper's nest was once found with five of the parasitic eggs, and three of the rightful bird's. It is not rare to find two of these eggs in one nest. I believe that this excess of the rule is due to several cow-birds laying in the same nest; and it may be that all these exceptions, both that of the number of eggs and when a non-favorite nest is used, are due to some straightened circumstances of the birds,—not finding what she would like, she must take what she can get.

A bird that never built a nest, or raised a young one, has little opportunity for the exercise of intelligence. Still there is even here a little stratagem. Let us watch the tactics of this unnatural bird. I am always pleased with the life-colors which Dr. Coues,

that eminent ornithologist, gives to the facts when he discusses the birds. He says: "It is interesting to observe the female cow-bird when she is ready to lay her egg. She becomes disquieted, and, betraying unwonted excitement, ceases her busy search for food with her companions. At length she separates from the flock, and sallies forth to reconnoitre among the bird's nests, anxiously, indeed, for her case is urgent. She has no home of her own, and there may be a sad analogy in this matter of homeless ones! In a forlorn flurry she flies to some thicket, or hedge-row, or other common resort of birds, where something teaches her that nests should be found. Stealthily, and in perfect silence she flits along, peering furtively, alternately elated or dejected, into the depths of the foliage. She espies a nest; but the owner's head peeps over the brim, and she must pass on, for she never attempts to disturb the lawful occupant by any violence on her part.

"And so the bird goes from clumps of grass to cozy bushes, and even the trees; but as yet finding nothing just right. Time presses, and she is becoming solicitous. She cannot do as the cuckoo does when in a strait,—lay her egg on the ground, and wait for her opportunity. So she hurries on. Now comes her chance. She has found a little finch's nest; it is just what she wanted,—and such good luck, too!—there is no one at home. Her business is clandestine, and alacrity is a necessity. So she disappears but for a very few minutes, when out she comes from the bush. And what a change has come about!—You would hardly know the bird. Her dejection is all gone. She is even elated.

The job is done,—her troubles are over; and she chuckles in self-gratulation, rustling her plumage, to adjust it trimly, and, light-hearted, as one who has got a load off her mind, she flies back to her associates. They know what has happened, but are discreet enough to say nothing,—charity is often no less wise than kind."

VI

But how different the emotion of that vagabond from the pretty mother-bird who had laid an egg but a few minutes before, in her own rightful nest, which she had herself elaborately built for the purpose. With the cow-bird it was an invasion of another's rights, and the transaction must needs have the alacrity of a sneak, With the finch the act was deliberate, maternal, and homelike. And there was a bit of pardonable exultation over it. Even the male chippers out his congratulation and joins in the pride of the event.

And what need of wonder. The cow-bird has chosen the nest of our American summer yellow-bird. And such eggs,—they are living jewels,—exquisite in form and tint. The eggs of the small birds are often live jaspers, emeralds, and amethysts. And the eggs of our little goldfinch are pretty, animated pearls; for their delicate white has a faint roseate blush, as if pearls could be incarnated or tinted with life like an infant's flesh.

As to that cow-pen sneak, she has left behind her a dirty-white thing, sprinkled with spots, and blotched with markings of a brick-red color. Big and ugly, there it is right in the middle of the goldfinch's roseate pearls.

VII

Generally the little birds imposed upon by the cow-bunting accept the situation, and become foster-parents to the foundling. But sometimes there are very interesting exceptions. The following only describes what has actually taken place:

A pair of summer yellow-birds had just built their nest in a barberry-bush. And that nest,—in form it was perfect and in fabric it was cozy comfort itself. With a slight cementing of glutin, the outside was felted with the gossamer lint of the silk-weed or *Asclepias*. The body of the nest was largely compacted of very small twigs, thread-like strips of cambium, or inner bark, and pine needles. Then, for the bedding, such a dainty selection,—the down of willow catkins, “the nankin wool of the Virginia cotton-grass,” the volatile fuzz carefully scraped from stems of plants, the downy hair of the winged seeds of the button-wood, the soft feathery pappus of the dandelions, and vegetable velvet from many sources.

Such is the bed, rivaling one of eider down. But the little toes of the future baby birds might get entangled. So a fine blanket is now spread over all; for the lining is composed of a weaving of horse-hair and the fine bent-grass, *Agrostis*.

Their toiling upon nest-building over, having now provided an elegant home of their own before settling down to domestic occupations, a little relaxation is allowable. So they go off just on a spurt of honeymooning. During this brief absence a cow-bird has

discovered the new establishment, and left in it her foundling egg. Not dreaming of any invasion of their personal rights, the birds return with merry hearts to the object of their affections—their cozy home. They are quite excited by what they find, and there is some earnest twittering, or bird talk, which seems to say: "What's this big thing? Here is an imposition on our hands." An effort is made to get it out; but the thing rolls back every time. So they stop further attempt to eject the intruder. There is a change in their conduct which shows that their minds are made up not to be imposed upon.

There was a pause just for a little deliberation, when a grave resolution was reached. Off goes the male bird, and returns with a fiber in his mouth, which the female puts in the bottom of the nest. At it both birds go with a will. They have resolved to add another flat to their establishment. And how they do work! Very soon the extra story is up, and the cow-bird's egg is left to itself in the apartment below.

VIII

In their pleasant upper story soon are five lovely rosy-white eggs. The mother bird has just laid the fifth, which makes up the complement. The male bird has just come home. He understands it all, and in a patronizing way suggests that before beginning the task of incubation, she go off with him and make a good hearty meal to start on. So the gallant little fellow takes her to a 'big find' that he has made—the first

ripe head of the summer—of that big thistle in the swamp, full of fine plump seeds. He does not know enough of botany to tell her it is the *Cirsium pumilum*, but for all that he uses all the pedantry of the finch language in commending the banquet. Nor will he touch it himself; and while she is regaling on the wedding feast, he pours out the nuptial gladness of his little heart in a silvery song.

It was a hurried repast. He is a little forgetful in his exuberance,—she, however, is not, and eats with haste, so anxious to return to those five treasures at home. And back they come. Well! well! well! Bless us both! Here is a vagabond among our dearies! What *shall* we do? To try to get it out would break our own eggs. To build another story would also sacrifice them. They are not such fools as to try that now. Before, when they had but one of their own eggs laid, and a parasitic egg was added, they did wisely when they abandoned it. But here was their entire set. The situation was now very trying; so they philosophically agreed to make the best of it, and go on with the incubation, such a course being their only hope to get their nide of little finches; and, perhaps, they could care for the big foundling, too. Thus on a mistaken confidence the genial little things set to work to hatch the eggs.

IX

Leaving for a little while our yellow-birds thus engaged, let us say a word about the cow-bunting's eggs. Speaking roughly, the egg is about one inch

long, and two-thirds of an inch thick. As we lose nothing by accuracy, the following is the average scale by measurements—in hundredths of an inch—.96 by .70, down to .80 by .62. A remarkable find of four eggs in one nest gave the following: 1 inch by .74—.96 by .72—.90 by .70—and .90 by .68. They will vary in form from an elongated oval to almost a sphere.

I have already spoken of the color of the egg. Wishing for a reason to be more precise, I will draw upon Mr. Samuels, the oölogist. Speaking, generally, the eggs are grayish-white, the entire surface being peppered with fine spots of brown. Others, again, are covered with minute specks of brownish red or brick color; while others still have a pronounced marking of "bold dashes, and confluent blotches of brown at the thicker end." It is not known yet how many eggs the cow-bird lays in a season.

Thus we see a variation in three ways,—size, form, and pattern of colors. Nor should these details seem dry to the reader. That was an exciting controversy which rose many years ago, when a scientist of repute ventured to assert for the cuckoo of Europe the ability to lay eggs purposely fitted to deceive the chosen nursing birds. This attractive theory fell to the ground when tested by actual observation.

And a learned ornithologist at home has ventured some hints of this kind in relation to our cow-bunting. But you, I think, can draw a deduction from the facts just given not at all favorable to any such notion. Four eggs in the same nest, probably laid by as many

cow-birds, and all diverse in size and shape and coloration. I believe it is a fact in nature,—that the dun, or gray, and blotchy eggs are much more subject to variation than the brightly colored ones.

X

Returning now to our little birds, which we left occupied with incubation, it should be first stated that the egg of the cow-bird is said to develop its embryo in a shorter period than do the eggs of the nursing birds. The time is believed to be ten days. Hence by nature and position the alien egg has the advantage, for it is closer to the breast of the hatching bird. Well, we find the large egg has pipped, and out comes the big fledgeling. Thus the rightful eggs get unavoidably neglected and addled. If any have hatched, the alien by his size smothers them, or by his greed they are starved to death. The two birds have a serious time in keeping filled the insatiable maw of the monster they have brought into the world, and their attention to its wants is assiduous.

And this absorbing devotion to their unnatural foster charge,—what shall we call it? Infatuation? Oh, no! We have already used a strange word—*storge*—denoting that affection with which an animal is imbued for its young. Among the animals,—at least, the more intelligent of them,—there is a period when this affection amounts to a passion. I have seen a creature, quite low in the scale, die of sheer exhaustion in its self-abnegation and hard work for its young. And this regard is shown almost eccentrically to the

helpless young of others, and very different from their own,—as in our stories of the cat taking the lone chicken in charge with her kittens, and the hen doing similarly with the orphan kitten. And what shall we say when the human mother in pity takes to her breast the little foundling left at the door?

XI

A word is in place about the scientific name of our Cow-bunting. It is *Molothrus pecoris*. The first word is a bungling bit of Latinized Greek. It should have been *Molobrus pecoris*, the first word meaning a glutton or hungry fellow, and the second word relating to cattle. So the name literally means “the greedy fellow among the cows.” And the way in which *Molothrus* exacts the attention of his foster-parents is really cruel,—he is hungry all the time.

I well remember witnessing the anxiety of the foster-birds for a young cow-bird which they had reared, and which they were trying to teach to fly. The scene was on the lawn before my house. The parents were a pair of chipping-birds. Their anxiety was painful. They tried every almost device in the bird-mind to get it away, for they saw me and seemed apprehensive. But the booby thing, a great deal bigger than either of its nurses, was insensible to every thing except its appetite. At every approach they made, it opened wide its mouth and cried for food, and it seemed to help its crying by a violent fluttering of the wings. At last, for I kept perfectly still, the birds got their charge away, but the whole thing was incon-

gruous to me. The little parents, the big foundling! I thought of their little ones that had perished, and wondered how it could be that such an object,—the cause of their loss,—could receive such devotion.

Our cow-bird is sometimes called the cow-blackbird for a manifest reason, the color of his coat and the company he keeps. It is less apparent, however, why he should be called the troopial, unless he is a trooper among the birds. And it is a curious fact that late in summer he will disappear of a sudden. Where he goes nobody knows. In September he returns just as suddenly.

I fancy I see a reason for this. The return of the troopials is with the flocks enlarged, for the young that have been raised in the summer have now joined the old ones. In May and June the young birds keep shy of the old ones, not even going into the fields, but flitting among the trees. In July they are admitted to the flock. And now they all take a short or trial migration,—a training passage for the young troopial. In September they return and stay a few days, when all depart for the south in much enlarged flocks. In their company are the red-winged black-birds. And they go in thousands,—the rice fields suffering at their approach.

XII

I have spoken of the American cuckoo as a bird of exemplary character, in allusion especially to its care for its young. It is alleged that it eats the eggs of other birds. Of this I am not convinced. She is


loyal to that domestic life, so admirable in the noblest of the birds.

As to these two pronounced exceptions,—our cow-bunting and the cuckoo of the Old World,—the phenomenon must in some way have relation to the balance of bird-life. And this involves profound considerations. The closest cousin of the cow-bird is the bobolink, but they have no habits in common. A good naturalist can not be a pessimist,—nor can he ever admit the arbitrary in Nature. He believes firmly in cause and effect. Hence it is our limited vision that prevents us seeing the reason of things. Surely there must be something needful and even beneficent in so strange a fact, that to raise one cow-bird involves the loss of four or five of the species chosen as the nursing birds. Hence, every thousand of this ill-voiced crew returning south means several myriads less of our sweet birds of song.

CHAPTER XIV.

THE BALTIMORE ORIOLE—THE HERALDIC BIRD.

I

ITH the balmy breath of the advanced spring-tide, as if it might be an oriflamb, or tiny banneret of flaming gold, the “fire-bird” comes flitting from its winter home in Mexico to the nearest of the Gulf States. And so to the close of the merry month of May these lines of golden light flash through thicket, grove, and woods, until Canada is reached. There is nesting all along this migration route.

Our Orioles, so-called, are strictly American birds; nor has one of them yet alienated itself by straying into a foreign land,—as we have seen our rain-bird and our robin do,—and it is said, even the true oriole of the Old World tropics. I think we must regard as the handsomest bird among his American compeers the one variously known as—hang-bird, fire-bird, golden robin; but mostly by his stately name the Baltimore Oriole.

To my ear these words possess a euphonius dignity. Oriole is the diminutive of golden in a pet or fondling sense. And then in that word Baltimore the bird is



historic; for does not this—our *Icterus*—carry the armorial colors of the Lords Baltimore,—

“Manifest as the light is his heraldry told,

Whose escutcheon’s emblazned with sable and gold.”

Our Oriole is a tender bird, not venturing north until the warm weather is assured, and returning southward in time not to be caught by the cold. Of the bird’s sensitiveness in this respect I have unpleasant recollections, having lost some pets, simply from change of climate.

II

The nest of the Baltimore Oriole is an ingenious affair. Both birds work together upon the structure, although either one could build it without help. These birds seem almost whimsical in this respect. The female has been known to build a nest of herself. So too the male. As a rule, however, they work together in harmony, the male doing the heaviest share of the work.

The first thing is to choose the site. This is by preference some high old tree, near a human dwelling; and signal favorites, because of their pensile branches, are the elms and weeping willows. The forked twigs at the extremity of the farthest out reaching branch are selected, the more pliant and flexible the better.

The next move is to attach the guys and stays. These connect the twigs, between which the sac-like nest is to be suspended. These guys may be of threads of flexible grass or fibrous bark,—though, if in the south, the so-called Spanish moss is so suitable and

plentiful as to be generally used. In the north, the birds need more skill, hence they will make the guy-lines out of the *Asclepias*—or silk-weed flax—and the *Hibiscus*, or swamp hollyhock; though the sensible builders, if it can be got, have a preference for string or grocer's twine, to procure which they will even undo the graftings on fruit-trees.

The stays being set, loops are fixed to them, which will serve as the warp threads of the fabric, into which the woof will be woven. So much done, the work now proceeds bravely, and soon a pouch or purse is completed of from five to seven inches deep.

And of what a medley of material is the nest composed! And not all honestly come by either. There are ravelings of rags, thread, twine, cotton, silk,—even an occasional bit of delicate lace pilfered from the lawn where it had been put to bleach, and the theft perhaps is charged to the maid, or somebody else, equally innocent. Often the pouch thus woven resembles coarse canvas.

But the above is simply the bag in which the real nest is to be placed. This is composed of willow-down,—lint of plants, soft flexible grass, horse and cow hair. If the latter fails, they will form delicate strips of the smooth bark of the vine. Sometimes a few feathers are added, and the nest as to structure is complete.

III .

I have mentioned elsewhere that a family of these golden robins, as they are sometimes called, once built a nest largely made of golden wire. And it was hon-

estly got, too. They had found an old epaulet, and had unwoven the golden lace. But I regret that a case of arrant larceny, with serious consequences, must be scored against a pair of orioles which I once knew. It was a sorry bit of business, and I will try to tell it truthfully.

Two greenbacks, or notes,—one for \$2, the other for \$1,—were missed from the till, or money drawer, of a hotel office in our neighborhood. It was in vain that the clerk asserted his utter ignorance of the matter. The till was in his charge, and he could not shift the suspicion that rested upon him. It was early summer, and all he knew was that the window of the office had been kept open, and he believed the money drawer at one time was left open a little way; but then it was not near enough to the window to be exposed by that. It all availed nothing,—the poor man was discharged in disgrace.

A pair of orioles had nested in the old willow. Now, the twigs of this tree are quite brittle, and one stormy day, in the winter, the supports of the nest snapped and it fell in the road. It was brought into the hostelry; and curiosity prompted an inspection of the structure—when lo! packed snugly as a part of the lining of the nest, were the two greenbacks. The truth now was out—the goldies, one or both, had entered at the open window and committed grand larceny.

IV

An interesting fact, in the selection by the orioles of a site for the nest, is, that the choice has reference

to securing over it when completed a natural bower of leaves, which shall be a shelter from sun and rain. As the selection of a place for the nest is usually made before the leaves are fully out, I see no way of their arriving at this conviction of fitness other than by the exercise of tact or judgment, in respect of the promise rendered by the buds or young leaves.

And if the above seems to try our belief, what shall we say of another very remarkable fact narrated by that trustworthy ornithologist, Mr. Gentry? This naturalist secured the nest which he described, for his collection. A pair of orioles had evidently misjudged their opportunities. When the nest was completed on the open-top plan, the leafy bower did not show up. Here was a fix! But if the birds had made a blunder, with what extraordinary intelligence did they amend the mistake. They roofed the nest, and that so nicely as to leave no appearance of a make-shift at all,—so perfect was the joining. Then near the top, at one side, was made a neat hole for entrance and exit,—and this hole was on the south side of the nest.

Now we can connect this position of the hole on the south side of the nest with other acts showing the bird's knowledge of expediency. In Louisiana, so the birdmen say, the orioles build on the north side of a tree, so as to secure the shade in that sub-tropical clime. But our northern orioles build on the south side of the tree, and for a reason exactly opposite.

It is noteworthy that the orioles in former days so built their pouches, that when the mother bird was inside, her weight drew the rim of the nest together,

and thus concealed her from predatory birds. This method is still observed by those which build away from the abodes of men. But the more prudent seek this human contiguity, as being exempt from the presence of hawks; hence their nests are more open at the top, thus affording greater comfort to the sitting bird.

In this pretty canopied hammock in the sky are laid four or five "flesh-colored eggs, with sometimes a bluish tint and obscure lines of lavender; there are also irregular scratches and lines of Vandyke brown and black as if done with a pen."

The birds eat berries and insects. My orioles ate whortleberries. They devour large numbers of caterpillars and beetles. The birds also have quite a liking for the goldsmith beetle, *Cotalpa lanigera*. Let us hope that jealousy does not quicken the appetite of the goldies. It is, however, apparent that these elegant birds, which so love contiguity to our homes, are the real friends and benefactors of our gardens, orchards, and fields.

When feeding their young the orioles do not proceed like the robins. This act is much like that of a pigeon,—the food is carried in the stomach, and in a softened state is eructed by the feeding bird.

V

A good singing oriole is indeed a musical creature, so far as the quality of the song is concerned. To be sure his répertoire is quite limited. But the enunciation is fine,—so flute-like and pronounced,—no jumble or indistinctness, but golden, clear, and high. Some

birds are pitiful bunglers at singing even their own tribal song. They are not unlike the man who said he might have made a fair singer, only he learned to sing before tunes had come into fashion.

But among the singing birds are diverse gifts, even in the same species. The few natural notes—sweet, simple, and harmonious—of the oriole can, by a gifted bird, be combined and expanded into a range that becomes phenomenal. Mr. Allen, the birdman, says that this difference of song in individuals of the same species may be so great as to defy an expert to detect what the singer is by the song. He even asserts that the strangest instance of this he ever witnessed was in the case of a golden oriole. So different were its notes from those of its kind, that he could not believe he was listening to an oriole until he actually saw the singer. It even resembled in part the song of the Western meadow-lark, actually executing the loud, clear, rich, and mellow tones of that beautiful warbler.

I feel constrained just here to enter upon what may seem a digression. The popular mind often puts together what Nature has set asunder. And this mistake occurs with the orioles. I once saw for the first time a cage bird, with plumage of deep black and warm gold. My first thought was,—“What a large oriole is that!” Then it broke out into a few loud notes, so rich and flute-like,—so like, only excelling, the music of our Baltimore oriole that I was enraptured.

And sure enough it was an oriole; but, except in its gaudy vesture of sable and gold, it was not our native bird at all. The truth is, that, unfortunately, because

of his sameness of color, naturalists have unwisely allowed the name oriole to go with both birds. The cage bird I saw was from the Old World, where it constitutes a tropical family, visiting southern Europe in the summer.

Thus, in its northern home, this true oriole is celebrated for its song, the quality of which is possessed in some degree by our golden hang-bird. The name of the distinguished foreigner is *Oriolus oriolus*, the very tautology signifying the right of the bird to be regarded as the true oriole.

VI

The singing of the foreign bird, though in some respects so like that of our own golden beauty, is yet in a high degree superior. But let Seebohm describe it: "Its voice is marvelously rich and flute-like. The call-note during the pairing season sounds like the words 'who are you?' in a full rapid whistle; and its song is a *wheet, li, vee-o*, hence its vernacular name in Holland of 'Keel-i-vee-o.' Some slight modifications of its song are apparantly produced by prefixing or interluding its call-note. It is a pity the song is so short; for in quality it is scarcely excelled by the song of any other bird."

I have a rather queer but very interesting story yet to tell of our Baltimore oriole, which deserves a chapter to itself. But the bird's scientific name has not been mentioned. In the books of the bird savants, it is down as *Icterus Baltimore*. The second name is musical, and, as we have seen, replete with pleasant histor-

ical associations. In the first name is the preciseness of a nostrum. The word is purely classical, but not at all poetical.

If my reader could consult the classical authorities he might find that Pliny, whose Natural History is too much occupied with old wives' fables, bandied a little greenish yellow-bird of those parts between certain names, and that he chose for its name the word *Icterus*, which really meant the jaundice bird. It has always been known that the skin of persons afflicted with this malady becomes of a greenish-yellow. It was said in those days that any one thus afflicted who should look at the bird would be instantaneously cured; but that the bird would instantly die.

It was the French ornithologist, Mathurin Jacques Brisson, who learnedly but not wisely assigned this fanciful name to our gorgeous bird. It seems to me that the savant must have been verbally bankrupt at the time, if he could not afford a better word. In heraldry *Or* means gold. How much better if this bird, sometimes called the golden robin, had been named *Aureolus*, the little goldie, which significance appears in its pretty popular name, Oriole.

CHAPTER XV.

THE ORIOLE.—CONTINUED.

I

The Oriole in the Role of Gastronomer.



HE person who can see nothing except through utilitarian spectacles might define man to be “a creature that makes discoveries and trumpets them abroad; and who also makes inventions and takes out patent-rights.” Excepting the patent-right, many birds could claim the above definition.

The mountain parrot, *Nestor notabilis*,—called by the Maories, Kea,—is a simple honey-eater. This bird has lately found out that fresh mutton is good, so now these birds actually combine in flocks to attack sheep, eating the live flesh from the animal’s back and sides.

But our story has to do with orioles and bumblebees.

In June, 1872, I received a small package from the President of Rutgers’ College. It contained several carpenter-bees, and every one was headless. All the President could tell me was, that they were picked up under a tree in the college *campus*; and an explanation was asked of the phenomenon. A good deal puzzled I ven-

tured a provisional statement—a sort of hypothesis—which, at least, had the merit of seeming probable. It was shot at a venture, and like such shots generally, it hit wide of the mark; so I went at it, resolved to work out the case if possible.

In the *campus* were two beautiful horse-chestnut trees, *Esculus hippocastaneum*. They were large and resplendent with their dense panicles of bloom. Every one, as it stood gorgeously upright, seemed a *thyrsus* worthy the hand of some celestial being. These “patrician trees, great and good,” formed the chief attraction of honey-seeking insects. It was only under them, of all the trees in the great *campus*, that these headless bees were found. But there they lay in hundreds under each tree. The ground was literally speckled with them. Strange to say, the slain insects consisted of but one species and one sex.

They were carpenter-bees of the species *Xylocopa Carolina*, and all were males. These males are stingless and have a white face. I picked them up by handfuls,—all headless, the heads lying on the ground. I searched diligently for a head without that characteristic white face, which designates the stingless male, but could not find one. Indeed, I entertain no doubt that, of the large number of these decapitated bees, every one was a stingless male.

One fact was now apparent,—the decapitation had taken place up among the flowers while the insects were in quest of honey. But what had done it? How was it done? And for what purpose? On these three questions the whole case rested; and if they could be answered the mystery would be solved.

It appeared under the microscope that the severance of the head from the body was clean, and not bunglingly done. The head was not pulled nor twisted off, but cut or nipped off, and always exactly at one place—the articulation. But so far the whole affair seemed the result of deliberate wantonness, much as I have seen some vicious children beheading flies. The case had become intensely puzzling; for Nature is neither wanton nor wasteful. It seemed to me that no bird would do it, for what could be the object of such a seeming waste?

Again, it seemed that no strictly aerial insect could do it. Indeed, for an insect to capture and decapitate this great carpenter-bee, while on the wing or among the flowers, would imply a rare combination,—a precise and powerful apparatus for attack, and uncommon facilities of flight.

And now was disclosed another wonder. On opening one of these headless insects the body was found to be hollow. Then a number were opened, and every body was found in like manner to be empty. The fact was now apparent that the bodies of all these headless bees had been emptied after decapitation. They had been literally eviscerated at the annular opening made at the neck by the separation of the head. Not a wound nor a mark could be found anywhere on the body.

III

I now began to suspect that the whole was the work of birds. Inquiry was made of the German janitor, who seemed pleased to be able to give a direct answer,

to the effect that ever since the horse-chestnut flowers had come out, three or four beautiful birds had come every day to the trees, and had been killing the bumble-bees. Under the circumstances, this information was very opportune. His only description of the birds was that they were black and yellow. I asked him to watch and shoot one for me, which he did the next day.

It was our Baltimore oriole. The specimen was a beautiful male, a last summer's bird. Its plumage was perfect, but the colors not so deep as those of an older bird.

The oriole is an insect and berry-eating bird. But here was a new habit of a curious and interesting character. If the Kea turns from honey to flesh, we find our oriole preferring honey to insect food, and resorting to the most singularly ingenious methods to procure it,—and with what intelligence!

When a boy, in common with my schoolmates, I often captured the bumble-bee, extracted the honey-sac, and sucked out its luscious contents. How did those four golden robins find out our secret? And not only did we boys know where the honey lay, but we prided ourselves on knowing that the white-faced carpenter-bees could not sting. As we have shown, our orioles found out this fact also.

In their operations, the birds caught the bee on the flower. This, of course, was done with their bill. The victim was then transferred to one foot, and securely held in the claws, while the head was snipped off; then the sharp, narrow bill and tongue were applied to extract the sac containing the valued sweets. From

every point of view this new habit appears extraordinary; and if the orioles generally get let into the secret it must needs go hard with the carpenter-bees,—at least with the stingless ones.

And, then, when we look at the similarity of the acquired new habits in the two cases mentioned, how remarkable the parallelism of the epicurean instincts of the Australian and the American birds! In both birds, what a singular change of the food propensity, and an apparent equally cruel wantonness in gratifying the same. As the poor victims lay before me, I was led to think of the old legal barbarity expressed in the judgment, “to be hung, drawn, and quartered;” for, pitiful sight, in my very hand lay these decapitated and eviscerated objects, still manifesting a vestige of life in the automatic movements of the legs of the body and the palpi of the head.

IV

May it not be asked,—Is there a march of intellect in the feathered race? If the birds are learning the secrets and practicing the ways of men, and, even like them, acquiring more refined tastes, whither will their progress lead?

And I have two reasons for propounding so grave a question. First,—to birds, as to men, example is contagious. The secret that bumble-bees contain honey, and how to get it, has leaked out among the orioles; for since then I have found that these birds, at a considerable distance from New Brunswick, where I made the discovery, do practice this trick of decapitating these large bees and extracting the honey-sacs.

But my second reason is, that a very important consideration on the new line of scientific thought comes of this discovery. The old writers regarded animals pretty much as mere machines, actuated in all things by an unreasoning impulse, which they called instinct. At the meeting of the American Association for the Advancement of Science, in 1876, Professor Edward S. Morse, in his address, contended against the notion that certain unerring ways were implanted in animals at their birth. He showed that the birds of the same species, which lived in contiguity with men, learned things which the birds not so favored did not. He instances the narrative I have just given you as "a curious case of the Baltimore oriole acquiring a taste for the honey-sacs of bees, tearing off the heads of these insects, and having secured the honey-sacs, rejecting the rest of the body." And in effect he contends that animals do vary in their habits, and with a persistant change comes the tendency to modify the animal itself.

V

The Oriole Getting Artful.

Hoping that my reader will digest this reasoning of the Professor, I will now hasten to another and equally wonderful instance of the oriole's sagacity. And I think the incident should encourage the young, who have sharper eyes than the older ones, to observe in the rich fields of nature.

You have all probably seen that flowering shrub cultivated on our lawns, the Missouri currant, with its fragrant yellow blossoms. This is the *Ribes aureum*,

the golden currant, which grows wild in many places West. Professor Beal tells of two little girls picking these sweet tubular flowers to suck out the honey. They were very little girls,—the older one being only six years old. Now, they noticed that some of these flowers were not as sweet as the others were, and that these had one or two little holes in the sides,—that is, near the bottom of the tubular calyx. Seeing them at these places, they thought the honey-bees had made the holes. This, however, was a mistake. The honey-bee can not extract honey from deep tubular flowers; but the big bumble-bee can, for it cuts a hole into the side of the tube and thus helps itself,—an artifice of which the honey-bee seems incapable.


But in this case it was not the work of the big bumble-bee, and, what is more, the little girls were not wholly wrong. The truth being, as the Professor had noticed, that the orioles had found out that there was honey in the flowers, and they pierced the tubes and extracted the sweets as much as they could, and the honey-bees came and took out at these holes what was left. But the bumble-bee had long possessed this secret of tapping tubular flowers near the base, and so getting at the sweets.

It was very severe on the gold-hunters when the robbers deprived them of their precious store, and even got the secret where they had obtained their treasure. So with the orioles; they rob the big bees of their honey-sacs, and have also found out where and how these insects get their honey; so when they fail to find the bees with a stock of sweets ready gathered, they know where they can go and get for themselves.

CHAPTER XVI.

THE WOODPECKER.

I

HILE we can hardly do more than count the mammals by hundreds, the species of birds can be told off by the thousand. There are not less than four hundred species of humming-birds. About two hundred and fifty different species of woodpeckers are known to naturalists. They inhabit all parts of the world, excepting Australia, Polynesia, and Madagascar. They all belong to the great family, *Picidæ* (so named from the Latin *picus*, a woodpecker), of which there are numerous different genera. This is one of the best marked and most easily recognized groups in ornithology, and this chapter is not too much to devote to its consideration.

Since a few preliminary details of a rather technical nature seem to be needed here, I am glad to be able to lean upon that learned systematist of birds, Dr. Coues:—

“With very few exceptions, you may know a woodpecker on sight, by its having a stout, straight, chisel-like bill, fitted for boring and cutting wood, with the

toes placed *in pairs*, two before and two behind, whereas most birds have three in front and one behind. This condition of the feet, as previously mentioned, is termed *zygodactylic*, meaning literally "yoke-toed." These two characters taken together will serve to identify any species of woodpeckers of this country at any rate; for the few other birds of ours, which have the toes in pairs, like the cuckoos and the parrots, have an entirely different kind of bill. There are only two species of North American woodpecker, both belonging to the genus *Picoides*, which have not paired toes; they have but three toes altogether, two in front and one behind—one of the very rarest cases to be found in the whole range of ornithology.

"A woodpecker's *tongue* is one of the most curious of natural instruments or machines,—for, with its numerous bones and muscles and accessory structures, it may fairly be called a *machine*. You should know that in birds the tongue is supported on a little bone, called the *hyoid* bone, which is forked behind, or has two branches, while a straight handle runs forward in the substance of the tongue. This bone and the attached parts are moved by various muscles, also called *hyoid* or *hyoidean* muscles, to help the bird in swallowing its food; and to this apparatus are attached certain glands called *salivary*, by which the food is moistened before swallowing it. In most birds the tongue is so tied down that it has comparatively little motion, and at any rate can not be thrust out any distance from the beak.

"All this is curiously changed in the woodpeckers

for a special purpose. The hinder forks, or horns, *cornua* as they are called, of the hyoid bone are so enormously lengthened that they reach altogether out of the throat, and curl up around the back of the skull, and in some species actually reach forward over the top of the head to curve around the right eyeball. Fancy a man with his 'Adam's apple,' of which the hyoid is part, slipping up the back of his neck, and over his head to the roof of his nose, and entering at the right nostril!"

The two *cornua* are really like the springs in a trap—they serve as shooters for the propulsion of the tongue. Now, these long "horns" of the hyoid bone are acted upon by stout muscles, twined about them in such a way that when the muscles contract they draw upon the bones, pulling them back, down and around the head into the throat, and so, of course, pushing the tongue forward till it protrudes from the beak an inch, or several inches. The tongue thus becomes a spear-like instrument which darts forth from the mouth to transfix the unlucky insects, which the powerful bill has bored for, and to draw them from their lurking-places.

II

The tongue of the African chameleon can be rapidly darted out to a distance of several inches. At its end is a pad coated with gluten, by which it catches insects, which, when struck, adhere to this viscid cushion. But the woodpecker's tongue is a more ingenious affair. The reptile simply picks insects off the leaves,—the bird

does that upon occasion; but it must also send the tip of its tongue down the hole it has made in the wood, and must spear the soft larvæ deep in their burrows in the tree, and so draw them up and out.

“The end of the bird’s tongue, the more curiously to adapt it to this purpose, is sharp-pointed and barbed like an arrow or fish-hook, so that the wriggling bug when once speared can not work off the end; while, to still further insure its sticking there, the tongue is lubricated with viscid saliva; and it is to secure plenty of this fluid that the salivary glands are so enormously developed. An admirable apparatus, truly!”

Generally, the caudal vertebræ of a woodpecker number seven. The one at the extremity is large, and ends with a strong, ridge-like, or swollen bony process, thus affording an admirable foundation or attachment for the stout, sharp tail feathers. But Dr. Coues shall describe this for us:—

“Woodpeckers, as we all know, are great climbers; they are always ‘shinning’ up and down trees. This act is facilitated by the peculiar arrangement of the toes; but there is another member that helps them to climb, and that is the tail. The tail is much stiffer and altogether stronger than is usual among birds; it consists of ten perfect feathers, with an additional rudimentary pair, making twelve in all, without counting the numerous small feathers which cover the base of the bird, as a part of the general plumage of the body. The last bone of the tail, into which the feathers are stuck, is much enlarged and curiously shaped. The shafts of the tail feathers are stiff, and their ends are

sharpened; the whole tail is worked by stout muscles, which pull upon it like the tiller-ropes of a boat's rudder."

III

Thus it is seen that the bird is literally a perpendicular climber, with a remarkable equipment for this usually very difficult action. The hooked claws set in pairs are wisely positioned as grapnels; while those stiff, sharp-pointed caudal quills are adjusted against the tree at the proper angle, and thus held stoutly by their strong and special muscles, they support the ascending body, as if resting upon a projected row of alpine-stocks. This poise of the clinging and ascending body of the bird, by sharpened hooks and pointed staves, is simply admirable, and Dr. Coues's illustration is original and too ingenious to be omitted:—

"In the acts of climbing or of simply holding on to upright supports, the bird forcibly presses its tail against the tree, and is thus propped up or stayed. You know how a glazier or painter, when working on the outside of a window, fixes an apparatus to stand on, the thing being hooked over the window-sill, and propped by legs which press against the walls a little way below. A woodpecker fastens to a tree in just this way, being at once the machine and the workman—hooked on by its claws, propped by its tail. In this attitude it is free to hammer away to secure its food or dig its nest." And surely this purchase, which makes the hammering possible, if viewed as a mechanical contrivance, is simply admirable.

IV

Every one knows the action of the workman who is plying the pick-ax,—and, that to be effective, the arm of the workman should be neither feeble nor short. How admirably in this respect has Nature endowed these wood-digging creatures. The bird has in its neck twelve powerful vertebræ. With the heavy, vigorous swing of this natural pick-ax, the bird rapidly excavates the chips of solid wood. The downy woodpecker will also bring into use the stiff quills of the wings. With all these appliances it will run up and down, and even backwards and sideways, round the tree.

As showing how these birds make excavations for their nests, and enforcing the idea of digging, Dr. Coues has the following:—

“I said dig its nest. For the nesting-place of the woodpecker, without distinction of species, is a hole dug in a tree. Usually, the bird selects a decayed piece of wood, where the work of excavation is very easy after the shell is pierced through; but the bird also excavates sound wood. A circular hole is first bored, large enough to admit the whole bird, and then the digging is done downward to the depth of several inches. The two sexes relieve each other at the work. I do not recall that I ever knew of any real exceptions to this mode of nest-building among woodpeckers; and the eggs of the whole family, so far as I know, are alike, barring a slight difference of size according to species. They are more nearly spherical than the eggs

of most birds, and pure white color, with a smooth crystalline texture of the shell. The number of eggs deposited varies, but most woodpeckers are very prolific; and, sometimes, when the nest has been repeatedly robbed, a bird has been teased into laying more than a dozen or twenty. The eggs are simply deposited right on the chips and dust that gather at the bottom of the hole, without special lining."

V

Perhaps at this stage it would be well to review the special points of structure which have been mentioned. What parts of this bird-machine have we noticed? And what are the purposes in such a composite mechanism? In a word, let us narrate again the structure and its relation to function. So far as we have examined and noticed this wonderful machine, it has been to consider simply those parts which are built for three purposes necessary to the life of the bird.

1. For climbing,—the yoke-toes, with keen claws, two forward and two behind; the sharp-pointed tail feathers, like so many diminutive alpine-stocks, and the strong *embracing* wings. I have emphasized the word; for the woodpecker's wings, though serviceable here, are weak at flying. In the best flying birds, the keel of the breast bone is deep; but the *carina* in the woodpecker is not well developed.

2. For digging into wood,—the chisel-shaped bill, and the powerful flexible neck for wielding the pick.

3. For catching and extracting its prey,—the extensile viscid-tipped and barbed-pointed tongue; and

the pair of curious *cornua*, with their equipment of muscles for darting and retracting this lingual spear.

VI

As insect destroyers the woodpeckers are simply invaluable. Besides digging out the borers in the fruit-trees, they capture innumerable insects upon the bark and leaves,—in the air and on the ground. Yet so many persons libel these birds, under the opprobrious epithet “sap-suckers,” it seems incumbent on me to tell the truth in behalf of the bird, to which this name is specially applied with opprobrium.

The Downy Woodpecker, *Picus pubescens*, is the bird held amenable to this charge. Let us look at the matter for a moment. I think this bird does suck tree-sap, but not in an injurious way. It pecks little holes in the bark, in horizontal lines or circles round the tree,—sometimes a great many of them,—and probably the sap is sucked, for even the humming-birds and moths will come to enjoy the sweets. And the same has been done with the sugar maple-tree.

It appears to me that these holes in the bark are insect traps,—attracted by the sweet juice the bugs are caught and eaten by the bird. But I am pleased in my belief that this is a provident habit of the bird—that which would indicate thrift in a human. The Downy is often with us in winter. These holes have proved to be nice places for the insects to put their eggs in; and so the little cocoons are highly appreciated as winter-food for the woodpecker.

Besides the Downy, the Red-head has been known

to do a little in this line of tapping trees for the sap. But as to the operations of either bird, I doubt if injury is done, while assuredly these noble birds do grand and beneficent work in destroying insects very harmful to fruit-trees.

There is a generous disposition in our Downy, when in the winter he comes to examine his traps, the little holes in the bark, now the hiding-places or nests of insects. Well do the chickadees, and the nut-hatches, and the brown creepers know that their friend Downy can not be beaten on an insect hunt. So they come with him on the snapping cold winter-day, their little stomachs very hungry. He brings them to his traps, and they all enjoy the good things that have been stored there by his providence.

VII

But there is this comfort as offsetting ignorance. Our knowledge of the structure of the tongue of the true wood-boring woodpecker, if wisely applied, will enable us to narrow down this indiscriminate charge and affix the accusation where it belongs. The culprit is a different bird,—nor is the fault as charged in the general indictment. Except in an intelligent sense the bird is not a sucker, but a devourer. Instead of indenting the cuticle of the tree with tiny pits, each just big enough to hold a small pea, this unprincipled fellow strips off the bark in great patches, and eats the cambium,—the sweet inner bark,—sap and all. While fresh the cambium is succulent and sweet. Well, who is this person that takes his gravy in a sop?

There are two of these birds quite exceptional among their well-behaved kindred. They are both of the same genus though of different species,—one is in the Rocky Mountains, the *Sphyrapicus thyroideus*, and the other, an inhabitant of the East, is the *Sphyrapicus varius*, literally the changeable hammer-head, but commonly known as the yellow-bellied woodpecker.

And even in this instance,—before we charge ill morals,—let us pause a moment. The question is why does not this bird earn its living in a legitimate way, by digging into the wood for larvæ? The answer is, that the proper tools have been denied the bird. It can not project the tongue like the wood-borers to extract larvæ, and this for three reasons: the tongue is not barbed at the tip—it is too short—and it has not those curious cornua or projectile springs. So that here a verdict of guilty must needs be qualified as “under mitigating circumstances.”


And in this way the systematist is often badly bothered; for Nature revolts at hard and fast lines. Among the woodpeckers, the cuckoo feature of four yoked-toes is very marked and highly functional; and yet there are among these birds a few with but three toes on each foot. As *Picus* is the Latin for woodpecker, and as the adjective termination *oides* means like or similar, so we get for this exceptional form, as Coues states it, the genus *Picoides* which is exactly like *Picus*, except that it has lost one of its hind toes. There are two species of these curious “three-toed” woodpeckers as they are called; but these are northerly birds, not found in most parts of the United States.

CHAPTER XVII.

THE WOODPECKER.—CONTINUED.

I

Whims and Ways.

S a group, the very singular structure of the woodpeckers sets them off quite distinctly from all other birds. And yet rather curiously, in this great group, are lesser groups, with strikingly different habits. In this chapter I propose to notice some of these differences, by taking up several species. Let me begin with a brace of Red-heads.

Next to the elegant flicker, the most frequent of the woodpeckers in the East is the Red-head, *Melanerpes erythrocephalus*, very common in most parts of the United States, and a gay bird as well as a beautiful one, with its rich tricolor plumage; crimson on the whole head, the back steel-blue, the inner wing feathers and underparts snowy-white. His colors are all very nice, the "red, white, and blue." But he is no respecter of places. He will despoil the sanctuaries of religion and learning, to the extent of cutting unsightly holes into country churches, and school-houses. Well is it for him that the significance of his name is veiled in

high-sounding Greek and Latin, for when put into the plain mother tongue, it means the Red-headed Black-leg. Still, we must not press this unduly, as the most intended by the namer was that this fine fellow indulges in a Garibaldi cap and black stockings.

I am inclined to think that, like his California cousin, the carpentiro, our red-head is a cranky bird. Coues puts it very mildly in using the term "versatile." Mr. Aldrich tells his observations of this bird. Very wisely it has learned to make the most of nearness to the abodes of men, — even to the extent of varying its food from insect to corn, and so helping itself at the pig-sty and cow-yard.

But this readiness of resource in the Red-head is more plainly noticed on the prairies. Even if successful, it is hard work, and at best "a labor of love," to hunt out from their wooded retreats the larvæ for the fledgelings. So the old birds got a new notion. They took the nestlings out into the prairie, and caught grasshoppers for them. This was a very easy affair, — and then it taught the young birds to do the same for themselves, so the family was the sooner got off the old folks' hands.

Notwithstanding the indiscretions with which he is sometimes charged, I still like the gay fellow, — he is so pert and bright. When it comes to fruit I have found him by far the best connoisseur in the orchard. To that strawberry apple-tree, whose yield is the prettiest, sweetest and earliest, he pays his best respects. There is one branch the most exposed to the ripening sunlight, and on the outermost twig is an apple already

crimsoned by the sun. Well does the farmer know that branch, and to-day,—a-thirst with toil,—he goes for that apple. Ah! the red-head is there, and with a chuckle he bears the prize away before his eyes.

And yet, one has to like the naughty fellow. He is a genius on his own line. He is gay and full of frolic. His cry is shrill and lively, and in its way original, being a vivacious modification of the tree-toad's gurgling rattle.

II

Another species of this genus of Red-heads is the California Woodpecker, *M. formicivorous*. As his scientific name denotes, this is the Ant-eating Black-stocking. And he is the queerer 'dick' of the two,—in fact the crank of the whole tribe. Cooper says this beautiful bird is the commonest of the woodpeckers in Lower California. They love the oaks, and follow these trees as high as they are found on the mountains. They like the topmost branches, especially where decay is present, for there they are likely to find their favorite food; like the woodpeckers generally, they also hunt insects in the bark and on the leaves,—they also eat fruit.

The carpentiro, as this bird is called, will excavate a pit in a dead tree to a depth of even two feet if the notion takes it. At the bottom is its nest, which is simply a bed of the finest of the chips, on which it lays four or five pure white eggs. If unmolested, the birds show familiarity in their nearness to human dwellings. They like "to play together round the branches, darting

off to take a short sail in the air, and returning to the same spot," where they indulge in a general medley of rattling sounds.

The eccentricity of the bird appears in its passion for drilling holes in trees, into each of which an acorn is fitted tightly. Mr. Stearns says he found in California a fallen yellow pine-tree, *Pinus ponderosa*, the trunk of which was pimpled all over with acorns stuck into holes drilled at the surface. He reckons that the tree, when standing, was 175 feet high. The diameter of the butt near the ground was five feet ten inches. At ninety feet its thickness was three feet eight inches. Below the ten feet, and above the ninety feet, the acorns were not so thickly inserted. So taking the surface of the trunk between these two places, we should have an area of 1,140 square feet. Now the acorns in a square foot varied from twelve to sixty, giving an average of thirty-six. This multiplied by 1,140 gave 41,040 of the acorns thus inserted by these birds in one tree!

The bird rejects the cup of the acorn before inserting it in the hole he has drilled. As showing the nice care in his work, the acorns are of different sizes, yet each fits snugly in its own hole.

Now comes in a curious calculation. Mr. Stearns took the average weight of seven green or fresh acorns, without their cups, to be one ounce. Thus it appears that besides the enormous labor of drilling 41,040 holes in that one tree, the acorns brought from a distance to fill them, weighed three hundred and sixty-six pounds, seven ounces, avordupois!

But our woodpecker seems fairly crazed when this

acorn planting-time has set in. I say crazed, advisedly, because the amount of labor thus expended is prodigious, whereas at his legitimate business of digging food worms out of infected trees, the bird shows a smack of indolence. He is finely equipped for this sort of work, and yet he does less of it than his fellows. But when the acorns are ripe, his achievements in drilling trees are simply matchless.

Still as with over-enthusiasts, generally, he does lack "method in his madness." He will jam his acorns under the loose clap-boards of a shanty, and in the chinks or crevices of a piazza. And he will even lose his head enough to drop them rattling down the chimney of a squatter's shanty.

I do not know how much business the fellow may mean, but the jay-bird, noted for his much talk and small performance, will make a "show" of helping a little. The settlers declare that the gay deceiver soon gets tired of honest work and plays upon the woodpecker, by dropping pebbles into the holes made with so much hard labor. This statement, though averred seriously, must be taken with caution. Of this, I entertain no doubt that the guileful jay waits for no invitation to help himself to these stores when the time comes.

Now the object of this garnering of the acorns is a matter of conjecture. No one, so far as I have heard, has seen this diligent bird eating any of the acorns thus stored, or the insects that may have been bred in them. Yet, we must suppose that this is an actual storage of food, for it is not possible to believe that it is done in fun. Like men, animals are economists of labor.

III

As the last of the American species upon which I have time to dwell, we reach the genus *Colaptes*. This word conveys the idea of a chisel, referring to the beak. To this genus belongs "the beautiful golden-winged woodpecker, or flicker, under the name *Colaptes auratus*. It is impossible to describe this elegant bird in brief terms; the most conspicuous marks are the rich golden yellow on the under surface of the wings and tail; a profusion of circular black spots and a black crescent on the under part; a scarlet nape-patch and scarlet mustaches (in the male). There are one or two other species of this same genus, for example, the Mexican flicker, *Colaptes Mexicanus*, in which the golden yellow is exchanged for rich orange-red, with some other differences."

The term 'high-hole' sometimes applied to this bird, is derived from a nesting habit of this golden-winged woodpecker. The brilliant bird selects some large old tree, a sugar-maple, or more usually an apple-tree. The one essential is that the old tree is succumbing to decay,—and the better, if a large branch at the main crotch has thus fallen off. Usually this fracture is high up, and here the entrance hole to the nest is made. The wood at this place is soft from partial decay. The bird, having made the side hole, now digs perpendicularly down the boll of the tree.

Suppose my reader goes with me into the apple-orchard, for there is a nest begun. Just look at these chips on the ground! How widely they are scattered.

Not that the bird carries them here,—it has a better economy of labor. Hush! Do you not hear that succession of thuds, almost sepulchral?

The sound comes from out the very heart of the boll of that old apple-tree. Now, keep very still, and watch the hole. The sound has stopped. See, there is the bill just poked out with a chip. Ha! the bird is suspicious. He withdraws his head, taking the chip back. Now he is still as the grave. With our silence he gains assurance, and the head and the chip appear again. Did you see that? How deftly he flirted that chip!—fully six feet away. He is too wise to betray himself with a heap of chips! So he scatters them far and wide.

The female has deposited in the bottom of this pit, upon the final dust left in the pecking, six eggs. I take out one to look at it, when the old birds are away. Not to alarm them, my inspection is hurried. There is no time to go off into raptures, so I leave at once, carrying the pretty vision in my mind. In three particulars the egg is the perfection of beauty. It measures an inch and an eighth by seven-eighths. In form it is elegant,—at the large end very thick, and tapering rapidly and gracefully like the favorite peg-top of my boyhood days. And the color,—it is white, but that a pearly white, with just the faintest imaginable cerulean tint, such as the daintiest laundry skill gives to the spotless white linen. Then, thirdly, is what I must call the finish of the egg. The shell is pellucid, like an opal, and has the soft glisten of polished ivory. But words fail to picture this exquisite gem.

IV

Captain Lyle has written charmingly on this bird. I am sorry that want of room only allows me to draw upon his description in a very condensed way. It is quite plain that these birds are capable of affection. In the early morning in the mating month, the two will sit together dove-like on a tree. "He will droop his wings slightly, spread his tail, nod or bow his head towards the female, first to one side, then to the other, all the while uttering his low love-carol." She, in silent appreciation of his gallantry, "bowing every time that he does."

"This courtship is continued for one week, during which time the happy pair has fixed on a site for their future home. The spot chosen was the dead limb of an elm-tree, sixty feet from the ground. Here their trouble begins." An assaulting troop of the foreign sparrows combine their pestiferous pugnacity. They actually, by their numbers, drive the flickers away. But they return, and get a little work done ere the assaulting party notices it, when the fight is renewed. Thus, for fully two weeks is this state of things kept up, when the rightful birds are left to their labors."

The digging out the tree begins in the middle of May. About the first of June egg-laying begins, and late in July the young are seen on the branches of the home-tree, the parents feeding them. By the first of August, or thereabout, all have left.

A practical joke was once played upon a pair of these golden-wings. When the female had got well at

laying, some of the eggs were taken from her. To get her proper complement she kept on laying until the joker was satisfied. Then incubation began. Now the eggs, which had been taken, were restored one a day until all were put back. The result was, that hatching was kept up an unreasonable time, and the old birds burdened with an immense family, all of varying ages. Thus, when all had left the nest, the tree was taken possession of by a little swarm of these birds.

V

I have watched the flicker when upon a winter hunt. And I recall one such occasion, when, as a convalescent, I was communing that wintry day with snow-birds. It was as if the keen frosty air were the canvas and sounding-board to the eye and ear. While looking at my Juncos popping in and out of their igloo, I heard a woodpecker in the big apple-tree,—our dear old Baldwin. It had of late years indicated that something was going wrong. The grub of that insidious beetle, curiously named by the bugmen, *Saperda candida*, had long been worming into the vitals of the good old tree.

A woodpecker hunt is a pretty sight. How deftly the bird runs over the bark of the tree, stopping to listen for the borer. Now he has struck the spot. The maturing larva is nearing the surface of the boll. It is burrowing outward now, and the hunter bird is digging inward. Yes, the flicker is after this fellow with the fine-sounding name. How he drives his chisels, and both at the same time! The sound is rapid, but the percussion is distinct in this crystal air. Ah! he

has stopped! Yes, he has unearthed that tunneler from his two-years' nefarious job, and the bit of candid wisdom, so-called, is now a *bonne bouche* for the high-hole. But at all times our golden wing is an industrious insecticide. Besides digging out the borers, he will sit by an ant-hill many minutes at a time, and as fast as the emmets show themselves they are taken, until the spot is cleared.

We have seen that the carpentiro had the specific name *formicivorous*, meaning "ant-eater," and generally the woodpeckers are not loathe to feed on these insects. In this connection, an interesting habit may be mentioned of the brown woodpecker in Burmah, in selecting a site for its nest. Some ants make their home in trees, constructing a large round mass of leaves and clay. Sometimes this woodpecker will bore a hole into this compact formicary, and therein will raise its young. The fury of the ants tells for but little, as the birds devour them as fast as they appear.

IV

The mechanic in the workshop will sometimes play with a favorite tool. The blacksmith has performed a tune upon the anvil with his hammer. As a rule such handling is more delicate than the monotonous application of the same at work. It may be remembered that an instance was given of the white-footed mouse thus trilling with his toes. And curiously, one observer noticed the little woodpecker, *Picus minor*, actually taboretting a tune to his lady-love sitting on her nest. The bird chooses a spot on a tree which secures for his

purpose some sonorosity; then he taps, nay, trills—with the point of his beak. It is not at all the sound or action of cutting out the wood, but a movement so rapid and light as to be invisible, though made appreciable, by that wavy shadow of its vibrating head. And the sound is that of a silver rippling, whose phonic increments no ear can separate.

So the songless lover serenades with the tambourine, producing the sound of the thumb, not the knuckle movement. And not without a conscious sense of pride he pauses,—looks to the right, and the left, and all round for admirers, throwing the very egoism of his soul into the crimson crest, which seems in the flush of exultation to say: "That's tip-top! I think."

Then rested and inspired he goes at it again, and for several minutes at the same spot he entertains the female in her patient sitting on the eggs. Well! well! This voiceless bird has an ear for the quality of sound. He is off to another tree whose wood gives a different timbre, and, so to speak, he repeats his rôle on the new tambourine.

There is excellent judgment here. The performer seems unable to modulate his touch or rapidity, so for variety he changes his taborets; and I have the notion that madam admires this music of her lord,—so unlike those inappreciative cow-birds. But, dear me!—Unkind words have a way of coming back again, for, with no reason that I can see, the birdmen call this little woodpecker "the crank-bird."

This interesting bird is well known in Germany and England. Its only vocal utterance is a feeble squeak,

like *ee*, uttered with rapidity six or eight times. This bird, when boring, makes but little noise,—actually picking, not hewing out the wood. But when searching for insects it is extremely noisy, the loudness being a part of its tactics. It makes a rapid *churr*, by striking at the bark, and so starting out the insects that may be simply concealed. A writer asserts that with the atmosphere favorable, the noise of this little bird when thus hunting can be heard a mile away. “It is surprising, and to me wondrously pleasing, to observe the many varieties of tone and pitch in their loud *churr*, as they change their place on boughs of different vibration, as though they struck on the several bars of a gigantic staccato.” So writes a skilled observer on birds, and, comparing this with the serenade we have here described, it is certainly curious. But, then, *Picus minor* is not the only one who shows off best when intent on practical business.

CHAPTER XVIII.

THE SHRIKE, OR BUTCHER-BIRD.

I



IN the butcher-bird we seem to have fallen upon the extreme of Nature's oddities,—the most heartless, the cruelest of all her carnivores. With carnivorous animals, generally, killing is simply a matter of necessity. The appetite staid, they are as a class more gentle than ferocious. The dog as a ratter, and the cat as a mouser, are only the outcome of man's training. But this bird literally keeps shambles going all summer long. For the butcher's hooks it uses the thorns of the tree, on which it impales its victims often alive, and with consummate skill, too. It is an easy matter to transfix a grasshopper or a big beetle on a thorn, but the spike may be too small to hold a bird in this way. How skillfully, then, is the thorn made to pierce the skin, like a skewer, and so deftly done, and so suggestive of the cook trussing the fowl for the spit. And should this device fail, the neck of the bird is put between a crotch, and thus the body is suspended as on a gibbet.

And then what a variety is sometimes found in the shrike's shambles! His shop is a thorny bush, perhaps,

or a small locust-tree. Here are birds gibbeted,—small lizards spitted, and meadow-mice, grasshoppers, and beetles impaled, some yet squirming; and it may be a snake, also, to complete the assortment.

This recalls an incident which occurred in my lecture-room in the winter of 1873. A student brought in a bird which he had shot in the city. He said the bird when shot was eating a street-sparrow in the tree. It was the Northern Shrike. I asked him to get the victim, and, if possible, just as the shrike left it, stating that he would very probably find it gibbeted in a crotch of the tree. This was done next day, and the incident gave a turn to the lecture. The bird's neck was jammed in the crotch, made by a pair of small branches in a larch. The head had been pecked in at the top, and the brains extracted.

II

All these things give so much interest to this very remarkable bird that I consider myself fortunate in finding among my papers a sprightly sketch of the shrike, written many years ago by Dr. Coues for some journal whose name has escaped me. After clearing up some of its technical terms, I shall draw upon it freely.

The family term, *Laniidæ*, means the butcher-birds. *Collurio*, the genus, also signifies a butcher, while the trivial or specific names, *borealis*, *ludovicianus*, and *excubitorides* are specific or adjective terms, denoting respectively Northern, Louisianean, and Sentinel-like. *Passerine* refers to the Order *Passer*, which includes the thrushes, sparrows, and, in a word, the most highly

organized, and, it may be, fastest living of the birds. *Insessorial* is an adjective of wider application, meaning perching, hence, including several Orders, the *Passerine*, and others, as perching birds. His style, so rollicking and jolly, is as lucid as the sunlight:—

“Looking at the picture of a shrike, I began unconsciously to hum to myself the familiar air of *Fra Diavolo*, for the movement of the piece accords well with the spirit of the bold and reckless bird,—that ‘daring robber and brigand’ of all the feathered race. Look at the stout, strong beak, with its sharp hook at the end, and its fang-like process so close by! This surely is the murderous instrument of a bird of prey! In one sense, but not in another; for if the portrait were finished in full length, we should find the feet as weak and harmless as those of a thrush or sparrow, while the feet of the true birds of prey, as all know, are armed with great talons, sharp and retractile like the paws of feline carnivora.

“Here, then, is the singular thing about the shrikes, that their whole structure, external and internal, even to the minute details of the feet, wings, and tail, is that of an ordinary passerine, insessorial, and insectivorous bird, saving only the beak, which resembles the hooked and toothed beak of a rapacious bird; while, in accord with the purpose of this instrument, their spirit is as bold and splendid as ever dwelt in the breast of one of those hawks called noble, in the good old days when falconry beguiled the leisure of kings and their courtiers.”

III

I hope my readers will grasp the philosophy which is couched in the above. Just to think of it, in the common order of things, a great class function, as in the Raptore, or slaying birds, requires an endowment consisting of many parts, all fitted to a great and special purpose. But in Collurio, this implied functional mission appears as it might have been overlooked. The shrikes have a world-wide distribution; and, reading of them in a popular foreign work on zoölogy, one would suppose that, like the hawks, they were just fitted for a life of carnage, whereas the only special appliance is that exceptional bill. But our author continues,—

“This is the pith and point of an ornithological lecture I must deliver this time. But how shall I amplify and illustrate, to enable one to recognize a shrike on sight and classify him with sufficient accuracy, and, above all, to awaken an interest in this gallant freebooter, who knows how to take his own wherever he finds it, nay, who actually keeps a private cemetery for the bodies of his victims!

“We all know the mocking-bird,—prince of song. The shrike is a bird of about the same size, and strikingly similar in form (except that beak!) as well as in colors. So close is the resemblance, indeed, that I have occasionally, at first sight, mistaken one of these birds for the other, when rambling in the groves of the Sunny South. The mocking-bird will do for a comparison to give the first general idea of a shrike; both are about ten inches long, with short, rounded

wings and long rounded tail. Both are white on the under parts, lightly shaded; in both, the wings are black with bold white markings, and the tail is black, with two or three white feathers on each side. In other respects the shrike is handsomer than the mocking-bird; the whole upper parts are of a rich French-gray, or light grayish-blue, which passes into hoary white on the forehead and sides of the head and over the shoulders. The eye is dark, restless, and piercing, while through the eyes passes a band or fillet of jet-black which is highly ornamental. In the young the colors are impure, and then almost exactly like those of the mocking-bird.

IV

“In thus comparing a shrike with a mocking-bird, I would not have my readers suppose for a moment that I imply any real relationship between the two. The latter is a member of the thrush family, which contains the robin, the thrasher, and the like; while the shrike belongs to a distant family of perching birds, the *Laniidæ*, and the name of his genus is *Collurio*, of which there are two American species, the great Northern Shrike or Butcher-bird, *Collurio borealis*, and the little Southern Shrike or Butcher-bird, *Collurio ludovicianus*. So now we know what we are about, having reached the inevitable Latin of the thing; but to my mind there are much more attractive things about a shrike than his nomenclature.

“Our ‘daring robber’ merits all the admiration, mixed with indignation, that we can accord to creatures

of seemingly puny body, whose exploits demand much strength, more spirit, and an insatiate love of rapine. The shrike is smaller than the least of our hawks, and much more slightly built; yet he constantly destroys birds and other animals as large as those that some hawks habitually prey upon. He stands in wait upon the topmost spray of a tree or bush, or upon the post of a fence, and pounces upon his victim with wonderful impetuosity. Occasionally, a shrike has been known to attack and destroy birds apparently safe in a cage by the open window; sometimes, in the ardor of pursuit, to dash himself to death against the glass through which the coveted prey was descried. These are feats which the more daring and impulsive hawks may execute; but which no others, even among the rapacious tribes of birds, ever attempt. So our shrike equals in courage and violence 'the bravest of the brave' among birds of prey.

"In establishing the shrike's reputation as a marauder I should not, however, leave it to be inferred that he is always dashing at unlucky canary birds in the windows, or performing other prodigies of valor. The doughtiest knights do not spend all their time in armor, with the visor down, and the game at which this rapacious *Passerine* ordinarily flies is of a much humbler nature. Like the 'mousing-owl,' he is fond of mice, and drops in the course of his life upon hundreds, or it may be thousands of these little quadrupeds, which he catches without difficulty; while grasshoppers, and many other sorts of insect hoppers, fliers, and even crawlers, in turn contribute to his voracious appetite."

V

I hope that in what I said in comment a little while ago my readers did not understand me to mean that Collurio is a lopsided fellow, who, like an occasional bird that could be mentioned, topples over with his one-sided gifts. His equanimity may be even commendable upon opportunity.

"There are also other sides to his character; he is fond of his ease, and often, when his paunch is full, passes the time in listlessly lounging upon his perch, with his hands in his pockets, so to speak, and nothing of the warrior to be seen about him as long as he is not bored or annoyed. But his irritability is at a high rate, and it does not take much to provoke his ire and resentment. As to his domestic life he and his spouse seem fond of each other, and constant and true in spite of the way they quarrel sometimes,—for, let it be whispered, she is something of a shrew, while he,—well, we begin to understand what he is.

"The home of this redoubtable couple you may find in a bush or small tree, usually near the ground; it is a bulky affair, substantial, and no doubt comfortable, built upon a basement or outer wall of twigs and other small sticks, closely matted together with weed-stalks, leaves, plant-fiber, and various other vegetable substances,—the cavity, cup-shaped, and about half as deep as wide. In such a receptacle as this, five or six, or even more, heavily spotted eggs are deposited, usually in June, but probably earlier in the case of the southern species."

But something more must be said on the nesting of the northern butcher-bird. They build in covered and secluded parts of the forest, and often on shrubs,—not above ten feet from the ground. The nests are as large as those of robins, and usually lined with feathers of some larger birds. The eggs are of a dull ashy or leaden—that is, dirty-white—color, and thickly spotted, and streaked with light-brown towards the larger end. After fifteen days of incubation, the young ones appear. For awhile they are very unlike their parents, with whom they remain for a long time,—in some instances the entire first winter. Caterpillars, spiders, and various kinds of insects form their first food, together with small fruits; but as they grow up, their parents bring them the flesh of small birds, on which they feed greedily even before they leave the nest.

“Of the two kinds of shrikes to which I alluded above,—one, the larger, is more boreal than the other, as its name implies. It inhabits the wooded portions of British America to high latitudes, and the northern half or more of the United States. The southernmost points at which I have myself observed it are Washington, D. C. and Fort Whipple, Arizona. In most of the United States it is scarcely known, except as a winter visitor which comes from the north with the snow-buntings, longspurs, red-polls, cross-bills, and other boreal *Passerines*; but it occasionally nestles with us in mountainous regions and along our northern border. The other and smaller species is a true southerner, if not ‘to the manner-born,’ and keeps mostly south of Mason and Dixon’s line. At least, the true *Collurio ludovicianus* does.”

VI

But this Southern (or Louisianean) species, as its name signifies, "has a near relative, a sort of half-brother in fact, called by the naturalists *Collurio excubitoroides*, who takes greater liberties with the geography of our country, and roams at his will over most of the interior of our Continent, as far north, at least, as the Saskatchewan, and south into Mexico among the offspring of the illustrious Montezuma. These two or three species are the only ones known as inhabitants of North America; but in the Old World there are a great many kinds of shrikes whose heritage seems in no danger of decay.

"'Shrike' is a sufficiently singular term for the name of a bird suggestive of such violent actions as *strike* and *shriek*. Why, then, do we say 'butcher-bird,' also, thus piling up the horrors? Is the shrike more sanguinary than many a bird of prey, to none of which such epithets have been applied? Decidedly so. For this amiable gentleman, with his elegant French-gray coat and white vest, and his many *debonnaire* ways, keeps a butcher-shop.

"From 'time immemorial,' the shrike has been known to possess the singular and perhaps inexplicable habit of sticking his prey upon thorns; and sometimes whilst it is still alive, it is thus cruelly impaled and left to perish miserably. The shambles of this pitiless butcher may be seen in some thorny tree or bush, which, in the course of time presents a sad spectacle, albeit a grotesque one; decaying or half-devoured birds,

mice, and insects sticking here and there. Such a strange habit has, of course, greatly exercised both the reasoning and the guessing faculties of naturalists, and many have been the surmises, wise and otherwise, as to the why and wherefore of these singular doings.

“Some have supposed that the victims were stuck up for bait, to attract more prey: to which others have replied that a mangled and decaying bird’s body would not probably be attractive to a live bird. Others have surmised that in the seemingly wanton atrocity the bird was simply thrifty,—was storing his larder; but then others observed that he impaled a great many creatures that he never afterward made a meal of. Some, again, perhaps impressed with an exaggerated notion of the bird’s sanguinary propensities, have considered the performance as a cruel freak,—as an extreme case of that fierce delight in torture which makes a cat torment a mouse,—as a reflection in bird life of some human traits, as when, for instance, some mortals delight to torment each other.

“I have my own notion in this matter. I do not suppose that a shrike is one whit more cruel (in a human sense) than any other bird; for that matter, indeed, a duck gobbling up a frog, or a sparrow taking in a worm, are equally ‘cruel.’ Nor do I admit that a shrike conceives the remotest idea of inflicting pain, or has any intentions whatever beyond supplying himself with provisions. I suppose the habit to have been gradually acquired, in consequence of the physical structure of the bird. We all know of how much use the talons of a hawk are in its economy,—that the

feet are used not only for striking and killing its prey, but for holding the provender secure whilst the beak tears it to pieces. The shrike has no such instruments; but always seizes with the beak, and then devours as best it may. What more convenient way of fixing its prey could be thought of. Many little birds, like nut-hatches for instance, take a nut to a crack of the bark, fix it there firmly, and then hammer it with the bill. The shrike's habit of impaling may have originally been exactly parallel, and it is no counter argument to state that the bird does not now feed at all upon many of the animals which he impales upon thorns. However this may be, certain it is that the shrike *is* a butcher-bird, and *does* keep a butcher-shop."

VII

This is truly a fine plea for the butcher-bird. Yet, I can not divest myself of an ethical conception, even when it comes to the conduct of the birds. The passion of this creature is slaughter,—at least it appears so to me. Collurio's shambles are too suggestive of a spirit of revelry in carnage. I remember seeing in a book written by a philosopher a picture of a cannibal butcher's shop. His was a sober business, and conducted on what he regarded as necessarian lines.

I am afraid that, at the best, this is only true in part of the shrike. He is wanton and wasteful. It is proven to some extent that the fellow does return to his shambles to eat. We can not lay down any canon law for taste. Some have ventured the notion that Collurio, like some other epicures, fancied his game

when a little high. The northern shrike has been known to return and eat impaled grasshoppers several weeks' old. But these were dry,—that is, in the state in which locusts are used by the human.

A Southern observer records the fact that he saw the loggerhead shrike kill a snake two feet long, and hang it up on an orange thorn, and that for two days it fed on this prey,—eating, however, very little as the narrative would indicate. After all, there was a pitiful waste; and so it is with the little lizards, which figure so much in the loggerhead's shambles.

I confess myself puzzled by the fact that in two respects the butcher-bird is too much like the mocking bird in appearance. He has been captured for that noble creature,—but his savage conduct, notably that of the young birds which have been under bringing-up, has soon corrected such a mistake.

Then the second fact, which is inexplicable. This bird is a mimic. He can imitate the call-notes of several species of small birds. But so far as I can learn, the queer fact of the American species is that its mimicry is always of those call-notes which indicate distress. In this respect, he is the only professional confidence man among the birds. And he can play the game of such a one to perfection. Suppose him to be tired of grasshoppers, field-mice, and such, and feeling that he would just like to do a little killing in the bird line. The deceitful fellow, with murder in his heart, will go into a bush or tree, and set up the cry of trouble, like that of some little finch, whose presence he suspects. Just listen to the hypocrite. What a

plaintive cry it is! Hark! a sympathetic little bird responds, and comes out of the coppice to see what is the matter. Oh, the wretch! He has caught the little sympathizer,—and see!—he is spitting it on a thorn.

Judging from Bechstein, the musical ability of some of the Old Country species is of a much higher order than ours. He says of the red-backed shrike: "This bird occupies no mean place among the songsters, as its song is not only very pleasant, but unintermitting. While singing it generally sits on a bush, or the lower branches of some tree near its nest. The song is compounded of the songs of the swallow, goldfinch, white-throat, nightingale, redbreast, wren, and lark, as well as some harsh notes peculiar to itself. It generally adopts the song of neighboring birds, and sometimes, through caprice, imitates that of some chance passer-by. It is, however, unable to mimic the songs of the chaffinch and yellow-hammer, perhaps from some peculiarity in the structure of the throat. In the cage it adopts the notes of the birds which hang near it. The red-backed shrike is very expeditious in clearing a room of flies, catching them when on the wing; and if needles be stuck in a bough for him, he will spit them with a very peculiar gesture." It is easily taught to whistle airs; but though it learns them quickly and well, it forgets them as soon.

VIII

In the winter our northern shrike is said to follow up the snow-birds. It is not unlikely, for I do not think our butcher-bird is at all timid. He only wants the

small birds for food,—but let the bigger fellows stand around, or keep out of his way! He has been known to attack the saucy jay and imperious magpie with such courage that these birds, though much larger, were glad to get away to save their precious feathers.

The foreign bird is used by the fowler to allure hawks to his net. The plan is to spread the net with the springs set. The decoy-bird is fastened to the ground, and the hunter, with the cord in his hands, is concealed in the bush. As soon as the shrike sees the hawk it begins to scream in terror. This is the signal to the trapper. The falcon swoops down,—the hunter pulls his cord, springs the net, and the bird of prey is caught.


I do not understand why our American shrikes are so inferior to those of the Old World in singing ability. The latter as mimics are often wonderful, imitating even the nightingale and lark. Bechstein, who kept a great variety of bird pets, had the lesser gray shrike among them. In the aviary, also, he had a pair of quails. The male would utter his call-note to his fair companion—“Do you know Bob White?” The shrike took it up, and though he might be in the middle of his performance of the nightingale’s song, yet he would stop and let off to perfection,—“Do you know Bob White?” At which, the real Bob would rush furiously round the room, in a vain effort to find out for chastisement where the other fellow was who dared to put such an impertinent question to his lady-love. But the shrike wore the joke out by trying it too often, so the quail at last submitted to the imposition in quiet disgust.

CHAPTER XIX.

THE CAT-BIRD.

I

A Strange Antipathy.

UST before the earliest of the peach and cherry blossoms begin to scent the vernal air with luscious promises; or, as soon as "the settled weather" invites the ploughshare, that amiable oddity, the avian gentleman in the black cap and suit of slaty-gray, arrives. He left us last fall, and, as it seems a long time ago, he begins hob-nobbing in each old familiar nook. It is natural that he should like to know how matters have gone during his absence. For two years to my knowledge his favorite nesting-place has been in yonder marsh, a very tangle bristling with spines. To be poetic and scientific both, this thorny maze consists of a matted luxuriance of *Smilax rotundifolia*. How every one of these slim, shiny, wiry vines is armed with little keen hooks like feline claws. Ah! that brings it out, for in our common speech these are cat-briers.

"Mew! mew!" Yes, the cat-bird has come, and he leaves the thicket to talk to us. And what a queer

composition of sound there is in that note. Tabbie's mew is a simple affair along side of this. The cat-bird's salutation has in it a greeting, an inquiry, and suspicion. He is glad to see you. Who can doubt it? He is the least apprehensive of all the birds. He is inquisitive. He wonders if you are the same person whose acquaintance he made last summer. Not being certain, he is a wee bit cautious.

Ah! well. Are there not transformations in both plants and animals. What but these insignificant hooks turned the *Smilax rotundifolia* into a cat-brier? And that 'mew' has fixed on *Mimus Carolinensis* the nickname, cat-bird.

And there is something interesting in this matter of names, even the scientific ones, which our bird has received from distinguished ornithologists. The one just mentioned signifies the Carolina mimic. It is a good proper name, too, seeing that the bird has the gift of mimicry, and is first cousin to the star performer in that line, namely the mocking-bird, *Mimus polyglottus*, which literally means the many-tongued mimic. But our cat-bird has also borne the name *Turdus felivox*, the cat-voiced thrush. And still more curiously it has been called *Orpheus felix*,—the cat-voiced Orpheus! After that we are loathe to talk about the lyre of Orpheus.

It is interesting to read what Dr. Coues has to say on the cat-bird, even if we can not agree with him in every respect:—

"The cat-bird is no beauty. A description of one might be called the 'portrait of a homely fellow.' It

is not easy to account for the vulgar prejudice against him. He comes of excellent lineage, belonging to the ancient and honorable family of the thrushes, which includes such a favorite as the robin, and such ornaments as the wood-thrush and the hermit,—nay, the mocking-bird is a first cousin of his. The contempt he inspires can not be entirely due to familiarity, for other members of our household band of birds,—like the robin, swallow, and wren,—do not come under the ban. If his harsh, abrupt, and discordant note were the cause of his unpopularity, the croaking crow and chattering blackbird would share the same disgrace.

“Yet the fact remains, that the cat-bird is almost always regarded unfavorably,—not so much for what he does, perhaps, as for what he is or is not. To eyes polite he seems to be ‘off color,’ and he is looked upon as *un peu comprimé* by the best society. There must be a reason for this,—the world is too busy to invent reasons for things,—and there never yet was a popular verdict without roots in some fact or principle. It is instructive in this case: the school-boy despises a cat-bird as naturally as he stones a frog; and when a boy thinks a thing is mean, there is no use of arguing about it.”

II

Let me interpose a word just for kindness' sake. Is there any thing noble in persecuting cat-birds or frogs? Moreover, has a boy who can do such things any right to an opinion as to what is mean or magnanimous in

the treatment of the lower animals? I remember, when I was a young man in the great city, meeting a lad in the street just from the country. He had in his hands a snake which he had caught. I asked it of him, but he would not part with the harmless thing until he had exacted the promise that I would not kill it, or treat it in any way other than kindly. The memory of that boy has been fresh in my heart ever since, like an everlasting flower. Could such a boy despise a cat-bird or stone a frog? No! not he. And why? Because that would be too mean for him,—and there would be no use arguing about it.

But Dr. Coues thinks otherwise, for he says,—

“For myself, I think the boys are right. Like many of the lower animals, boys are quick to detect certain qualities and apt to like or dislike unwittingly, yet with good reason.”

Now, let my young readers just reflect: “Like many of the lower animals.” That is exactly it. Cruelty is often thoughtless, or actuated by impulses akin to “many of the lower animals.” The reasoning of mercy is on a higher plane.

III

Again, Dr. Coues says: “The matter with the cat-bird is, that he is thoroughly commonplace. There is a dead-level of bird-life as there is of humanity, and mediocrity is always despicable, hopeless, and helpless, and never more so than when it indulges aspirations. Yet it wears well, and is a useful thing. What would become of eminence, if their were no dull, homely me-

diocrity for a foil? The cat-bird has certainly a great deal to contend against. His very name has a flippant sound, without agreeable suggestions. His voice is vehement without strength,—unpleasantly explosive. His dress is positively ridiculous,—who could hope to rise in life wearing such clothes, especially with a red patch on the seat of his trousers? Add to all this the possession of some very plebeian tastes, and you will readily see that a hero can not be made of a cat-bird.

“There is said to be a great deal of human nature in mankind, and I am sure there is as much bird nature in the feathered tribes. I sometimes fancy the cat-bird knows us much better than we do him. He is at least a civilized bird, if he does hang by the eyelids on good society; if he is denied the front door, the area is open to him; he may peep in at the basement window, and see the way up the back-stairs. His eyes and ears are open; his wits are sharp; what he knows he knows, and will tell if he chooses. His domesticity is large; he likes us well enough to stay with us, yet he keeps his eye on us. His is the prose of daily life, with all its petty concerns, as read by the majority; the poetry we are left to discover. Shall we find it?—we shall see.

“Explain him as we may, the cat-bird is inseparable from home and homely things; he reflects, as he is reflected on, domestic life. The associations, it is true, are of a humbler sort; but they are just as strong as those that bind us to the trusty robin, the social swallow, the delicious bluebird, or the elegant oriole. Let it be the humble country home of toil, or the mansion

of luxury where wealth is lavished on the garden,—in either case, the cat-bird claims the rights of squatter sovereignty. Quick, there he is now, watch him! He flirts saucily across the well-worn path that leads to the well, and sips the water that collects in the shallow depression of the flag-stone. Down in the tangle of the moist dell where the spring-house stands, with its cool, crisp atmosphere redolent of buttery savor, where the trickling of the water is perpetual, he loiters at ease, and from the heart of the green-brier makes bold advances to the milkmaid who brings the brimming bowls.

“In the pasture beyond he waits for the boy who comes whistling after the cows, and follows him home by the blackberry road that lies along the zig-zag fence, challenging the carelessly thrown stone he has learned to dodge with ease. He joins the berrying party fresh from school, soliciting a game of ‘hide and seek,’ and laughs at the mishaps that never fail when children try the brier patch. Along the hedgerow he glides with short, easy flights to gain the evergreen coppice that shades a corner of the lawn, where he pauses to watch the modest gardener trimming the box-wood, or rolling the gravel-walk, or making the garden, and he wonders why some people will take so much trouble.

“Still restless and inquisitive as ever, he makes for the well-known arbor to see what may be going on there. What he discovers is certainly none of his business, nor of ours; the rustic seat is occupied; the old, old play is in rehearsal, and at the sight of the blushing cheeks that respond to passionate words, the very

roses on the trellis hang their heads. This spectacle tickles his fancy,—always ripe for mischief, he startles the loving pair with his quick, shrill cry, like a burlesque of the kiss just given and taken, and he enjoys the little consternation of the lovers. ‘It is only a cat-bird,’ they whisper re-assuringly; but there are times when the slightest jar is a rude shock, and pledges that hang in a trembling balance may never be redeemed.

“The next we see of the bird, he is perched on the topmost spray of yonder pear-tree, with quivering wings, brimful of song. He is inspired,—for a time, at least, he is lifted above the commonplace. His kinship with the master of music,—with the mocking-bird himself,—is vindicated. He has discovered the source of the poetry of every-day life!”

V

Are not these last four paragraphs charming? What delicious humor! The popular invective laid aside; our savant becomes the poet of the birds.

We will now in a spirit of soberness go into some details other than mere sentiment. Like the person who, when charged with some dereliction, and called on for his defense, replied: “Let my character, as drawn from my life, make answer to this calumny.”

The bird deserves high respect because of its rank and position in nature. Despise the cat-bird? Why? It is no plebeian, far less a pariah, but a patrician bird—a thrush. The thristle and mavis, the missel and merle, are terms embalmed in the folk-lore and the poetry of the Old World. And these are the kindred

of our cat-bird. At home, his relationship is with the hermit and the robin, the veery, the thrasher, and the mocker, for he and they are thrushes all. So of right our *Mimus Carolinensis* can hold up his head with the best in the land. Despise him! Why, if the bird-mind could do this it would be sheer silliness, and to a degree contemptible.

And our *Mimus* has eminent social qualities. Excepting the house-wren, which is pert and unprincipled,—for I have known it to oust the eggs from the nest of the orchard oriole, for no other motive that I could see except that of vicious mischief,—our *Mimus* is the most trustful or the least apprehensive of harm from man. It is amiably unsuspicious, allowing itself to be closely approached. It is familiar without taking undue advantage. It is not tricky, but transparent even unto innocence. Nor is there a particle of stupidity in its amiableness. The bird is exceedingly active and lively, almost to sheer restlessness.

But I recall to mind the conduct of a certain cat-bird, which looks like ingrained wickedness. At Lakewood, N. J., one of these birds made a savage assault on the brood of a wren, and executed terrible vengeance on the innocent nestlings. This fact, so far as I have ever heard, stands alone, and should not be held up against the general good reputation of the family. There are idiosyncrasies among birds as well as among men. A terribly vicious boy may belong to an exceptionally amiable family. Perhaps some sort of provocation had been experienced by the assaulter of that wren's nest; and retaliation may become unreasonable, whether practiced by birds or other folks.

VI

In its regard for the young birds, the cat-bird is a model of solicitous attention and anxiety; and yet it takes no pains to conceal its nest from man. Of all the thrushes it builds its nest in most exposed places. The robin likes the crotch of an old apple-tree. This bird is less particular. Often one can look down into it and count the pretty eggs; for it will nest in "a brier, or bramble thicket, or thorn-bush, thick vine, or fork of a sapling," quite ignoring the idea of concealment. The nest is made of "dry leaves, weeds, small twigs, and fine dry grass, lined inside with black fibrous roots." There are usually four or five eggs of a greenish-blue color; and the industrious birds will raise two, or even sometimes three, broods in a season.

And here I must dwell for a moment. One of my neighbors is an amiable lady, who loves the birds, and has a way of getting their confidence. In the flowering bush, near the house, the same pair of cat-birds have nested for two years. The lady has watched them, looking at the pretty eggs, to which the old birds soon became accustomed. But when she undertook to handle the baby-birds, taking them out of the nest, the old folks drew the line there, and vigorously attacked the hands of the lady. However, she persisted! Each day she would take a fledgeling out, talk to it, and then return it to the nest. Then the parent-birds, at last, seemed to be glad when she came to look at the babies, and offered no resistance.

There is a phase in the familiarity of this bird which

smacks of intelligence. It must not be mistaken for obtrusiveness. The bird is inquisitive, and will utter its *mew* from an adjoining bush in a way to surprise. The bird's desire to know what is going on would almost look like some interest in human affairs. Its unsuspicious nature will not let it repress that *mew*! Perhaps it is a sort of Paul Pry politeness, — an apologetic “I hope I don't intrude!”

VII

This cautious familiarity in the wild state changes in the tame bird into an affection of a quite demonstrative kind. A young bird, thus tamed, delighted in the freedom of the room and the companionship of my little granddaughter. It would alight on her shoulder, and took great pleasure in picking at her hair and dress and in other ways manifested a fondling disposition. Whenever it chattered or sang, the bird would keep the tail in motion, and the child told her playmates that Ned was beating time to his singing.

This bird was cared for in the cage by the parent-birds. Even after it could feed itself they would come occasionally, bringing it a berry. This was done late in the season, until the old birds left. But next spring they returned to their haunts; and one day, the weather being fine, the window was raised, and in came the parents to see their young one, now of course grown as large as either of them. This was done more than once, so that my son shut down the window, and the three were kept in the room. After an opportunity to see their young one to their heart's content, the window was raised, and they took their leave.

The sympathetic nature of the bird has been brought to light, as it seems to me, by our keenest observers. Wilson, sometimes to amuse himself, at others, for the purpose of learning what birds might be near, would imitate the chirping and squeaking of young birds. In the breeding season, these sounds would have an effect on the older birds, not unlike the cry of fire upon the denizens of a populous city. On such occasions the cat-birds would be the first to show themselves, not singly, but sometimes half a dozen at a time, flying from different quarters to the spot. Other birds would also be affected, but none would show such symptoms of extreme suffering.

The picture of the cat-bird at this juncture of alarm is profoundly interesting. He hurries backward and forward, with drooping wings and open mouth, calling out louder and faster, and actually screaming with distress, till he appears hoarse with his exertions. I have had the brown thrush fly viciously at my face, when near her nest. But Wilson's picture is really that of amiable distress. Even in its extremity the cat-bird attempts no offensive action; "but he bewails, he implores in the most pathetic terms with which Nature has supplied him, and with an agony of feeling which is truly affecting."

Nor let it be so much as hinted that the bird lacks courage. In this conduct it shows good sense. It is the weak pleading with the strong and superior. The common black snake is a pitiless enemy of the birds, and an unrelenting marauder of their nests. The cat-bird will attack this fearful reptile with heroic courage,

and even compel it under chastisement to its hiding-place.

The bird is more tenacious of its nest than are many others. "When the eggs or young of other birds are placed in it, they are content to throw out the intruders, and continue their attentions to their own family. When the nest and eggs are providently removed to another place by man, the parents follow, and do not remit their cares."

The name *Mimus*, as already indicated, has regard to the bird's musical endowment. "Before the dawn, when there is scarcely light enough to make things visible, the cat-bird generally begins his song, while fluttering with great sprightliness from bush to bush. His notes are more singular than melodious, consisting of short imitations of other birds, but failing where strength and clearness of tone are requisite. He appears to study certain passages with great perseverance, commencing in a low key, and as he succeeds, ascending to a higher and freer note, unembarrassed by the presence of a spectator, even within a few yards. An attentive listener discovers considerable variety in his performance, apparently made up of a collection of odd sounds and quaint passages."

As a friend to the agriculturalist, whether of the garden or the field, the cat-bird is simply invaluable. What if he does take a few cherries or raspberries. He devours myriads of the garden enemies in the various kinds of insects. One bird will keep cleaned up in a single day more fruit-bearing space than he could strip of its fruit in a whole season. A single bird in forty-

eight hours will collect and consume considerably his own weight of insects.

As a destroyer of insects our *Mimus* shows a nice discrimination rare in a bird of any sort. Look, just for a moment, at that imperious little kingbird sitting on the post not far from the bee-hives. Homeward comes a honey-laden worker-bee. Almost too quick for the eye to detect the act, the naughty bird catches it in the air and gobbles the little worker up.

And here comes the cat-bird. He goes right up to the sill of the hive, and helps himself to a couple of bees, and leaves. Yes, he does this occasionally. But between the two birds is a great difference. The one is hostile to the bee-keeper's interests,—the kingbird destroys the worker-bees returning to the hive, laden with their sweets. The other is beneficial to the bee-man, for the cat-bird discriminates, and only helps himself to the drones, which are always in excess, and are eaters of the honey, none of which they collect.

IX

But now we will sum up. What have we seen in the life of our cat-bird? He comes of a respectable family and conducts himself worthily. He is intelligent. He has social qualities,—is amiable and attractive. He is a model bird in his family relations. He is trustful of men. His inquisitiveness seems to come of his regard for human interests. He has a nature sympathetic for his own folks when in trouble. He is tenaciously attached to his home, wife, and children. In their defense he can become a hero, even to the wag-

ing of battle with a formidable reptile, who has designs on his establishment. He is a musician of no mean accomplishments. As an insecticide, he is thorough and discriminating, and emphatically the benefactor of all who till the soil or eat the good of the land.

Here, then, we rest our case, with the declaration that to despise or persecute the cat-bird is to malign or injure a friend. For his intelligence let us respect him. He is a better meteorologist than his relative, the robin; hence is he the harbinger to the husbandman. So, as Barry Cornwall sang to his thrush in its livery brown, let us sing to ours in the more somber suit,—

“Bid him come! for on his wings
The sunny year he bringeth,
And the heart unlocks its springs
Wheresoe’er he singeth.”

CHAPTER XX.

ESTRAYS OF NATURE.

I

The Snowy Owl.



WITH the incoming of the scientific method, or quality of thought, occurs the outgoing of the old almanac, and the blind credence given to its forecasts of physical phenomena. The calendar condensed for business, and confined to verifiable facts, typifies the modern mind, as against appeal to the supernatural, in the interpretation of any seemingly unusual activities of Nature. Yet it appears like a new faith to some to speak of the amenability of all phenomena to law. To such observers, what better is Nature than an imperious madam, 'high strung,' and moved by whims and moods. We should not forget that the higher is not independent of the lower. The realm of inorganic matter has its forces which affect the entire dominion of organized life. All is molecular movement, hence variation of temperature, atmospheric change,—the wind, the tempest, rain and snow,—in a word, all those phenomena of which the meteorologist takes account.

To all this in very large measure are due the conduct and movements of the animals of any region. The rural observer tells us that the dumb creatures have a knowledge of these matters 'before the time.' This is a vestige of the old almanac credulity. Though not so precisely as to tell the exact day, the birds have a general knowledge when to make their annual movement. "Yea, the stork in the heaven knoweth her appointed times; and the turtle, and the crane, and the swallow observe the time of their coming."

And yet, even the birds make mistakes! A mild day or two may allure them again to their northern home. But the winter may reassert itself, and the few 'fast ones' find they are set on premature business. As the "one swallow does not make a spring,"—it sensibly goes back and waits for the surely propitious days. Then the matter is undertaken in real earnest, the whole community uniting; and the entire movement is almost mirthful under the exhilaration of certainty that the skies teem with encouragement.

As every effect must have its cause, the naturalist is much interested in those irregular visitors called by him "casuals." Seemingly outside their own province, or domain, I have named them "the Estrays of Nature." And these exceptionals occur oftenest with the birds. Sometimes it is the coming of a *rara avis*, which, like an angel visit, is very welcome to the loving observer. The event may be the arrival of a great number of a species that had been very scarce.

To the true student of Nature these become his opportunities,—they open out to his mind great

problems, dealing with the migrations of life in vegetable and animal forms. I will then narrate, each one being different, an annual observation of this kind for several successive years.

II

The Raid of Arctic Owls.

The great order *Raptores*, which embraces the rapacious birds, includes two large groups. One of these, because of its preying by daylight, is called the *diurnes*, of these the eagle is the type. Another group chiefly forages at night, and is called the *nocturnes*, to these last belong the owls—the cats of the rapacious birds. But Mrs. Malaprop could not see why the owl was “a rapturous bird,” though she could admit its claim to openness of countenance.

Once seen, the owl can never be mistaken; its flat, pussy face, and large, brassy, cat-like eyes set squarely in front of the head are so unbird-like. As a rule, how trim, spruce, compact, and graceful are the falcons, the typical birds of prey! How fluffy, squatty, and dowdyish is the typical owl. Whether it means little or much, stepping down from birds to insects, it is thus with the diurnal and nocturnal *Lepidoptera*, as the elder naturalist said. “If any analogy is allowable between different tribes of animals, the owls might be said to resemble moths,”—the night-fliers,—“and to differ from the diurnal birds of prey as these moths do from the butterflies,” which are day-fliers. These birds have been called “feathered cats,” for as a rule

the owl, cat-like, prowls at night, and steals upon its victim by a quick, fluffy, noiseless swoop or spring.

III

The owl has its large, staring eyes in front of its head or face like a cat, while the other birds have them one on each side of the head. And there is an eccentricity of structure in the ears. Says Nicols: "In all birds except the owls, and in the vertebratæ generally, the organs are symmetrical,—*i. e.*, of the same size and shape on opposite sides of the body. Not only does the external ear of some owls differ considerably on opposite sides, but in one species the bony entrances to the skull are not the same in shape or position. As to this abnormality of form, one is at a loss for a reason. But for the enlarged apparatus of hearing, it seemed rational to suppose that it may be to warn them of danger, as they are usually at rest when other animals, their enemies, are on the alert."

To the Raptores, which capture and bear away their prey in their talons, the utmost play of these organs becomes a necessity, and we find these birds having large functional capacity with the toes, the outer one on each foot being reversible,—that is, the bird can turn this organ backward or forward. What seems a serviceable quality, as affording a firmer hold or grasp of their body, is the file-like roughness, especially noticeable on the inner side of the digits,—thus the clutch of an owl is a combination of a grapnel and a vice.

The optics of the owl deserve a few more words,

in position and size and even color so cat-like. But a very interesting feature is the uniqueness of their setting, each like a big yellow topaz sunk into a concave band of opal of a pearly grayish hue. The eye is surrounded by or rather set in a disk of feathers, so trim as to seem a carved band. Thus when these optics are open, and set to take in the light, the stare of each is as a little moon in a wide halo.

IV

At the risk of giving the folly of an old friend a setting in type, a true incident must be told in this connection. A clerical acquaintance with his confrère, walking in Walnut Street, Philadelphia, stopped to gaze at an owl in a bird-dealer's window. The clergyman had been dogmatizing to his friend on the impossibility of art equaling nature. He even claimed that the best idealism of the artist was crudeness compared with a bit of nature. The sight of the bird in the window was the speaker's opportunity.

"Look at this stuffed owl," he said, "what a failure in the taxidermist to imitate life in this bird of Pallas. Why, set him before his living fellows and his own kind would not recognize him! Like the living bird? pshaw! Hyperion to a Satyr! A dead skin,—merely a stuffed, or to be technical, mounted bird!"

Just then a child stopped, and, looking into the window, tapped the pane, when the "bird of Pallas," as if woke from a dream, shook his head, and opening wide the big, yellow eyes, and spreading out the trim disks in which they were set,—fixed them in

owlish gravity upon the homilist and his admirer. They both moved on,—in philosophic silence,—two ruminating mortals much wiser grown.

Though it seem a demur to my friend's high standard of the æsthetic in nature, it cannot be denied that in animal ornamentation, even Nature sometimes seems a little astray. As if to make the bird even more cat-like in appearance, some owls have upon the head a pair of feathery prominences, "erect, false, external ears." Hence the terms, "eared owls," and "horned owls."

And there is no evidence that these tufts on the owl's head have any functional significance. And is it not a little queer to see the face and eyes and ears of a carnivore set on the body of a bird? What, then, can these false ears be for? Is it to set off the owl's head-gear,—like the pigeon wings in my lady's coiffure? If so, where does the æsthetic come in? There is a purpose in the white cockade of the footman's livery. It serves for definition of position. Then it might be hinted at as an attraction to the lady owl. There is too much gravity in the situation for that, as the female owl is always the 'big fellow.' But why argue the matter, since it 'is the style, you know,'—and that settles it.

V

I am now chiefly concerned to say a few words about the Arctic owl, sometimes known as the Snowy Owl, whose scientific name is *Nyctea nivea*, though also known as *Nyctea scandiaca*.

That was a memorable event in the annals of bird lore when those Arctic owls made their remarkable raid upon us of the Middle States in our Centennial-year, November, 1876. In the chronicles of the bird-men, it is known as the raid of the snowy owls. Clad as these birds are to withstand the Arctic cold, and in the matter of sight favored beyond the owls generally, for they can hunt both by day and night, it must be that food considerations sent them southward. Could the severe Arctic winter, so disastrous to Captain Nares's expedition, have created the necessity?

It was during a pleasant autumn that the affair occurred, hence it is still an open question what induced *Nyctea nivea* to make that visit in such numbers after the big show was closed, and the world's folk had left. If the commissariat was under consideration, our snowy owl had grave reasons for his coming. Winter is hardly a prime season for delicacies in the larval line, and the construction may seem awkward, yet it would bear assertion that these birds of Pallas were in search of food. Though bold, *Nyctea* did not put on style. It was simply that sort of personal bearing which comes of innocence. In the Northern cities he even perched on chimney-tops, and in rural places was familiar with men, almost unto rashness. Our farmer friend, his family filling the large carry-all wagon, was on his way to church, when lo! by the road-side, was one of these Arctic owls. No man is himself at all times, and our good friend's piety was sorely tried, for the strange bird actually ogled at

him with its big, brass-button eyes. He was in a quandary what to do. It is Sunday. Shall he send Thomas back for the gun? The wife suggests they'll be late to service. The bird owes his life to that good woman.

VI

The snowy owl is the finest bird of the tribe, and one generally would be accounted a prize among rural collectors. But now was a plethora of these beauties. Probably some sixty were shot within a few miles of my home. The country bird-stuffers were overstocked. One taxidermist in the city of New York was reported to have had over fifty left him to mount. Another in Philadelphia had as many more.

In Massachusetts, the birds appeared in flocks as early as September. They were shot in the large cities, even in Boston, where they perched on the churches and house-tops. For several days they were common in the city and vicinity of Portland, Maine, and not less than one hundred and fifty were killed. They had a surprising spread, for in Washington Territory, we heard that they were slaughtered simply for the love of carnage; one man is said to have filled two barrels with them.

In the markets of New York these owls were suspended in strings, like poultry. To many a village bird-stuffer in the Eastern States that winter of '76 brought a large increase of business. In not a few parlors of my acquaintance, a snowy owl became a fixture, and was pointed to as an avian prize. But

our splendid bird has become unable to uphold its reputation. The tidy housewife charges it with bringing in that tiny reprobate, the clothes moth, which, after plucking Nivea in spots, finishes on the upholstery.

Whatever the cause of this raid, many of these poor owls showed marks of suffering. Said Ruthven Deane, at the time: "Many of the specimens were in exceedingly poor condition. Of some two hundred examined by me, nearly all were in dark plumage, and none wore that almost spotless dress which we occasionally see."

VII

A rather fine specimen was brought to my lecture-room by one of the students. This was in November. The noble bird was rather badly injured by the shot. He was at last given to a young friend, who, as a bird-artist, appreciated his prize. He kept him in his room, which served him as studio and chamber. The bird had the freedom of the place, and was quite good-natured, permitting himself to be caressed. One night he insisted upon getting up on his master's bed. This the jealousy of the bird-dog would not stand, and every time the owl flew on the bed, the dog sprang at him and drove him off. At last, the student ordered the animal to keep quiet, when the bird came again on the bed, and nestling by the sleeping artist kept still until morning.

"Snowie," as he was called, was a gross feeder and fond of mice, which it would swallow entire. The

artist studied birds and the small animals in their haunts, occasionally capturing one alive, and keeping it for a particular study of form. Herein lay a temptation which the bird could not resist. In this way a weasel, which my young friend intended to set up, was devoured by the owl. He would also dispose of musquash, rabbits, rats, and birds. In truth, he was a gormand of a very exacting capacity.

To see him dine was certainly a droll affair. He would open wide his great brassy optics, then insert his beak into his prey, then shutting his eyes excruciatingly tight, would lift his head high and gulp down whatever he had detached,—all of which would be executed in true batrachian style, for whoever saw a frog swallow any thing except with eyes shut.

The bird was occasionally let out on the snow. This was indeed a treat—it was so like home—and he would swallow the snow in mouthfuls. But the young man found the demands of that hungry maw very exacting,—in fact, that owlish stomach was too capacious for him to fill, so he killed the bird in order to have it stuffed.

VIII

A fine owl is this Arctic bird. It will smite, so it is said, ducks and grouse upon the wing like a falcon. It will swoop upon a hare on the ground, and even catch fish in the shallows, showing dexterity and skill. As this is done with the talons, and these are clad with feathers almost to the covering of them,—this is somewhat exceptional. Much of its hunting is done

by day. A full-grown female will measure about twenty-seven inches in length. An old one in prime condition is almost entirely white, hence it is prized as a show-bird.

As to the habits of the snowy owl in its Arctic home, I find instructive matter in the *Standard Natural History*:—

“This owl and the gyrfalcon are probably the only birds of prey which remain in the Arctic regions through the winter. It seems to be unaffected by the cold, and has been met with as far toward the Pole as man has yet reached. It is interesting to notice that no seasonal change in plumage, like that which the ptarmigan undergoes, has been observed in this species, which, when adult, needs no protective coloration, and so retains its white dress through the summer.

“It is different with the nestlings. These are at first of a uniform sooty-brown, which must yield considerable protection to them during their long stay in the nest, in its exposed position on the ground.

“This bird is known to breed in Labrador, said to do so in Newfoundland, and *suspected* of it even as far south as Maine, but its true breeding range probably does not extend south of the parallel 50° , while it breeds most abundantly very much farther north. The nest is seldom more than a hollow in the moss, or a slight depression on a ledge, with perhaps a few feathers added. In this simple affair from six to ten eggs are laid, usually at intervals of at least several days, so that the first have hatched before the last are

laid, and the young birds thus contribute their warmth to the other eggs, leaving the parents at liberty to seek food for themselves and their young."

The eggs are white, and for the number laid are really large, being two and a half inches long and two inches thick. This unique economy of utilizing the heat of the infant owls to help raise the prospective baby birds is an ingenious division of labor; and a device that greatly lightens the task of incubation, which is so trying to many other birds. It is not wise to meet trouble half way, yet one is tempted to ask, What about the peace and harmony when the family nest is crowded with ten hungry owlets of different ages and corresponding appetites?

IX

Mention has been made of the night swoop of this fluffy-feathered bird, the owl. Its movements, though quick, are so silent; and its cry or scream occurring in the night is so unearthly, if not diabolical, that with certain associations of time and place the effect on some minds is appalling. It may be in place to narrate a boyish adventure with that historic owl, Athena's own classic bird, once known in the books as *Strix flammea*, but now as *Aluco flammeus*. It was that cosmopolite, which from castle ruins and church belfries in the Old World, and barns and hollow trees in the New World, startles the ear of night,—the screech owl. As if burned into the brain tissue with a hot iron, my memory recalls a night's experience when I was a child.

Sickness had entered the house at the dread hour of midnight. No man was about, and the well must stay with the ill. Who should go for the doctor, more than a mile away? Impulsive and sympathetic, I was "the brave, good boy" to volunteer. Not until past midnight was the doctor's house reached, and he was out, so I left my message, much disappointed that I must return alone.

Thinking to help the matter, I ventured upon that expedient of country boys, known as "making a short cut." So the open road was abandoned for a narrow path that led into and through the old church-yard, which having reached, my timidity began to get possession of me. Cautiously I passed through the stile of the stone wall, and was now within the silent inclosure. At that moment the clock in the stone church tower struck one! There was first a startling shock, then a prolonged thrill. How the heart did thump! for the solemn reverberations of that brazen tongue kept every fiber of my frame in a quiver of agitation. I think the moon was large and running low, for my shadow which preceded me seemed frightfully long, like an earth-hugging ghost, while parallel to it, and forbiddingly near, lay the long dark shadow of a tall Lombardy poplar.

I had now got well beyond the oppressive shadow of the tall tree, and the exit from the church-yard was nearly reached, and my courage was beginning to rise, when out of that darkness behind me burst a piercing sepulchral shriek. It almost lifted me off my feet. Then, as if it might be from some goblin

sentry came in such an unearthly tone, the challenge: "Who! who! who-o-oo are you?" How my heart did thump! and how I ran, almost flew, can not be told.

It was still a good way from home, but this was gained at last. I rushed into the house, (the family was up stairs,) and without immediately reporting to them, I threw myself face downward upon the lounge, and sobbed my distress away, as young folks sometimes sensibly do. For long afterwards I was oracularly wise about "the witching time of night."

There was, however, a small discrepancy in the ghostly doctrine, for it was an article in the owlish creed that if the night-bird hooted at a person from the church tower, at or near midnight, and in the clear moonlight, it surely portended some one's death. But the sick got well, and no evil befell the affrighted boy; though for a long time after the recollection of that night would bring a shudder.

And the owl has thus figured in superstition. To the Greek the bird was the symbol of wisdom, to the Japanese it is the bird of evil, and unclean; but Science declares that it is the friend of the agriculturist, hence the true benefactor of men. As for the poets in general, the rhyming tribe is libelous on the bird of Pallas and Minerva. The gentle Burns has, however, some kindly words, and for the owl he deserves to be the poet of fact and sympathy. As a class the foreign bards are often stale in figure, and conventional in sentiment, when singing of their birds. I think in this respect they are in marked contrast

with the breezy naturalness of American poets. Are our birds brighter and cheerier than their's? But we excepted him of Scotia's hills and dales, who sang:

“Shut out, lone bird, from all the feathered train,
To tell thy sorrows to the unheeding gloom,
No friend to pity, when thou dost complain;
Grief all thy thought, and solitude thy home.
Sing on, sad mourner! I will bless thy strain,
And, pleased, in sorrow listen to thy song.
Sing on, sad mourner! to the night complain,
While the lone echo wafts thy notes along.”

CHAPTER XXI.

ESTRAYS OF NATURE.—CONTINUED.

I

The Least Auk.



IT is within the memory of man that an immense bird flourished in our northern waters, but which is now supposed to be extinct. It stood three feet high and was flightless, but gifted with extraordinary speed in the water, in which it could flash like lines of light. Mr. Bullock relates that he pursued one for several hours, in a six-oared boat, but failed to get a shot, so completely was the bird master of the art of diving.

This huge non-flying bird is known in the books as *Alca impennis*, the Great Auk. Fortunately, specimens of the bird and its egg are to be seen in some of the more eminent Museums of Natural History.

All this is much in the nature of a general familiar talk, before one introduces his friend to some member of the family. The one especial individual of these guillemots, to which attention is asked, is that odd little body known as the "Least Auk." It is but nine or ten inches high when it is standing bolt upright,

and, unlike its big cousin, can fly upon occasion. It has several quite pretty names,—such as rotche, sea-dove, and dovekie.

The bird is described as a native of the very highest latitudes, and as congregating in large flocks near the Arctic Circles, even swarming at Greenland, Spitzbergen, and Melville Island, in the Polar Seas, which seem to be its favorite stations. But when the task of raising its young is over it moves southward of its Arctic home, some even spending a part of the winter in the waters of the Northern States, with a wanderer or two into the Middle States, where, though recognized by the ornithologist, it is an object of wonder to the natives.

The plumage is black and white, and in winter the front of the neck, which is black in summer, turns white. The bird has no hind toe. It lays but one egg, which is of a pale bluish-green. The place of deposit is generally the most inaccessible ledge of some precipice which overhangs the ocean. This habit of laying but one egg is a family trait, being true of other species and even of some of the gulls. But the egg of the “little auk” is notable for its great size, as compared with that of the bird. It must now be stated that *Mergulus alle* is the bird’s scientific name.

II

The winter of 1877 brought to the coast of New Jersey a number of the Arctic dovebies, some came far inland; but whether along shore or in from the sea, “the oldest inhabitant” could make nothing of the

innocent strangers. They were so gentle, and unsuspecting, and so comical, for on the land their gait was a tipsy waddle, and as instable as that of a baby just learning to walk.

I was much interested with these queer but really amiable little fellows. How I did wish they could talk. Wouldn't I worm out of them sundry secrets, may be solutions of some polar problems which have cost us humans so much heroic endeavor, for I held to the idea that in their high northern range, they even visit the Pole,—thus putting to blush our efforts in that direction.

A boy on his way to school saw a bird acting very strangely by the side of a small stream. It was six miles from the sea, and entirely beyond tidal reach. The boy captured it,—a simple matter,—as he had only to go and pick it up. He took it to school, where the heat and dryness occasioned it much suffering, while its odd appearance and singular action caused much amusement. It stood so bolt upright that the scholars said the bird stood on its tail. When the lad got home, a tub of water was procured, and then came the fun. The bird seemed crazed with delight. It ducked and dove and splashed. Then it would make a dash, as if striking out, and fetching up against the side of the tub in a manner not productive of good; but then *Mergulus* is not the only biped that takes a winter tub in an injudicious way.

Dovekie was hampered with limitations. It was a sea bird, not of the albatross or any other pirate kind, but a quiet creature, much like the honest mariner, asking only for plenty of sea-room.

The little stranger excited much interest, and "the queer bird" was discussed at the evening gathering at the country store. Junius Jenkins, just home for the holidays from college, was "pretty sure, but not altogether certain, that it was a new species," and his opinion was regarded with respect. This is a digression, but is given as a specimen of what the naturalist when afield often hears to his amusement.

Soon these birds were getting picked up near my home in town, so I furnished the local paper a paragraph in which was given the systematic name of the bird, and it appeared editorially.

Another specimen was found in a neighboring village, standing on the wood-pile in the back-yard of a house, also some miles distant from salt water. It was mounted by the village taxidermist, who ambitiously named it from the newspaper paragraph. It found its way to the hotel, where I was invited to see it, and its name was given to me with a polite and pedantic flourish by the obliging landlord, who said he got it from the bird-stuffer, who told him that it was scientific. "Ah, indeed! Could you tell me what it means?" "Oh, yes! Our doctor says *Mergulus alle*,—means all-sea-gull." It would have been neither courtesy nor policy in me to say that mine host and the doctor were gulls all over, since *Mergulus* is good Latin for a little diver.

III

I am at a loss to conceive why these birds, so thoroughly marine in their nature, come so far inland. They have been captured thirty miles from the sea.

Do they get lost, owing to a lee wind and fog? Flight must be very laborious to them, and every motion on the land is awkward to a degree. But in the water, all is truly wonderful,—there the bird displays grace, speed, and a certain refinement of motion.

There is much to wonder at and to admire in the sea-dove's ways when in her own element. Just stand with us on the bluff at Long Branch. There is a high swell, for the wind is pretty stiff and directly from the sea. We shiver in this wintry gale. How crushingly, and as if in bellowing madness the surf comes rolling up the strand. What grand high waves they are!—and, despite this oppressive resonance of fury, to what a solemn cadence is the whole movement made. There are several sea-doves to whom all this is blissful and delicious. When it suits they can ride the crest like the stormy petrel. But see! that gorgeous wave approaching, and that Dovekie goes right through it as an arrow shot through a cloud of smoke,—and the bird comes out into the deep trough beyond, and with every feather dry. And now it glides along the green, glassy bed of that aqueous valley,—then up the round side of that immense water mountain, which it has just pierced, then it sits like a little puff on the advancing crest. These are the nice points in the high art of natatory locomotion. It can float like a bubble and progress like a shot; while its rapid subaqueous movement, as against the momentum of the incoming wave, calls out one's admiration. And what about the thrill of that tiny avian brain? You may depend there is high glee there. Forward it comes, borne on that great

surf-wave, which now strikes the shingly beach and breaks up into white, seething froth,—then retreats, leaving the light cottony foam for the wind to toy with on the sand.

IV

The little bird, like a dark spot, ascends the sloping shore so quietly, riding on the mad white water. Its grand rôle, however, is over. It suffers itself to be left high up on the beach by the scattered and receding surf. The shore seems alive with sand-fleas, and the *Orchestia agilis* is a dainty, shrimp-like bait for our sea-dove. The bird appreciates the opportunity, and sets itself to make the most of it. But oh, how awkward! But, then, how is a body to put one's best foot forward when Nature has set both *pes* so extremely far backward? So its every effort to capture *Orchestia* on dry land is decidedly without art. It is so awkward, wobbling, and funny. As if to save it from damaging so fine a record, my pupil's shaggy white retriever walks quietly up to the bird, toddling on the sandy shore, takes it in his mouth and carries it to his master. "Ah, Whitie! you have nipped birdie a little too hard, and poor Dovekie has come to grief."

I have mentioned that the Least Auk lays but one egg. As a rule, the sea birds lay very few but very large eggs. If we take the gulls or guillemots, we will see the importance of their eggs to some communities.

The annual egg harvest furnished in but one small spot of the world by the guillemots yields some extraordinary figures. The Orkney Islands appear to possess

the best nurseries. Trustworthy statements for the year 1880-81 maintain that above 11,000,000 of eggs were shipped to market. The boxes, numbering 7,023, held on an average 140 dozen each, or a total of 983,220 dozen, or 11,798,640 eggs.

V

Taking these at the low estimate of eight-pence a dozen, the value of the export was £32,774, and equal to about twenty shillings per head of the entire population of the Orkneys. All this means in round numbers that, leaving out the home consumption, the egg product of these wild birds, as exported, was worth \$163,870, or five dollars for each inhabitant of the islands, and still a vast number of eggs is allowed to be hatched. It would not be rash to estimate the numbers of wild fowl of both sexes frequenting the district at 20,000,000. The yearly harvest is made up of two or three visits to the nests, the female usually laying again when robbed of her first egg, one egg being all that is laid if the bird is undisturbed.

The egg, as large as that of our domestic fowl, is a very pretty affair. As I recollect them, having seen them once when a mere child, they are very shapely, having a small end and a large end, and a coloration very positive and quite pretty,—being a bluish ground with many black markings on the large end, not unlike stenographic signs. But the variety in the ground color and the markings is so great that in several hundred specimens it would be hard to find two eggs even nearly alike.

VI

I have inadvertently alluded to myself when a child, as having seen "gull eggs." It was at Hull, in England. I was there as a sojourner under the care of an elder sister. Seeing me wrapped in admiration at the sight of the "gull eggs" in a shop window, she bought me two of them. I can almost feel now the delight of that inchoate naturalist.

The Dovekie, as already mentioned, breeds in very high latitudes,—not only on the stony ledges but among the talus or débris on the mountain-sides of those distant regions. And the communities are such that no man can number them. Between the bowlders, and even down among them, each one lays its lone egg, and devotes itself to its incubation and care of the chick. I may here tell the story of a man who, ignorant in such matters, undertook to "set a hen." The eggs were put in a box filled with straw, and the hen put forcibly upon them. Not being in a hatching vein, the hen refused to sit. So he put her on again, placing over the hen a box to keep her in place. After a few hours he peeped into the arrangement, and to use his own words, he said: "What did I see?—the hen was sitting a-standing!"


To the Gallinacei such conduct is a contradiction, if not an impropriety. But to the Little Auks this is the law of the situation. The legs of this bird are set so far back, and its tail is short and stout; the egg is literally held,—embraced between the legs and the tail, thus resting as on a tripod, the bird's position is bolt upright,—it virtually "sits a-standing."

CHAPTER XXII.

ESTRAYS OF NATURE.—CONTINUED.

I

The Florida Gallinule.

N November, 1878, my friend, the railroad conductor, called on me. He had with him a small box, obtained at the grocery, which, by nailing laths on one side, he had improvised into a bird cage. This was carried by a boy, who set it on my study floor, and my friend told me that it contained a queer bird which was caught on the beach at Manasquan. On seeing it he had gone up to it, and was surprised that it did not fly away. Nobody knew what it was, neither the fishermen nor the old gunners along the coast. They all said that it must be a tropical bird, and the most of them thought it had been a pet on some vessel inward bound, and that it somehow got overboard and had to work its way to land. So my friend had come to see if I could tell him what it was. "Now then, pet, come out and show yourself to the gentleman."

Having thus delivered himself with the same preciseness, as when calling out a station for his pas-

sengers, the conductor pulled up a few of the slats, and sure enough, the pet did come out and show himself. He had a body about as big as a pigeon's, with long legs and long toes. I had never seen a living specimen of the species, so did not immediately recognize it. But there were certain features so noticeable that, with Coues's *Key to North American Birds*, the merest tyro could soon identify the stranger. The bill was pinkish-red, and high up on its forehead was a flat, smooth plate like red coral or sealing-wax, giving it a somewhat cooty aspect; and around each tibia was a red band as if a fillet of the outer skin had been removed. It was the Florida Gallinule, *Gallinula galeata*. There was no strut in its walk. But for the occasional slipping of those great splay feet on the smooth oil-cloth, the bird sustained a self-possession, with a dignity of carriage, which was charming to witness.

II

A bird bearing such an imposing appellation could afford to be above pretentiousness. His first name is a diminutive of Gallus, our common fowl, and the trivial name refers to the decoration of the head. Hence, a little *hauteur* may be allowed our gentle Southron, as his name interpreted means, the Helmeted Little Chanticleer. He is cousin to the Rails and the Coots; not that he is a mud-sill by any means, for he is a little above his relations,—not so much as even keeping company with the mud-hens.

I called in my family to see the interesting stranger.

Their entrance in no wise disconcerted Gallinule, though Madam stroked him on the back and patted him on his head, and even felt of his polished helmet-plate. He was evidently a person not to be injured by flattery. Although undesigned, there seemed to me genuine humor in the contrast of its dainty stepping, when running down an insect on the lily-pads of a Florida pond, and that stately tread on my study floor. But for our confiding nature we should have suspected the stranger of putting on uprightness, an instance of mimicry of that good old knight, Sir John Auricular, who in all God's ways walked perpendicular. And there were side-wise glancings of that pertly fashioned face that looked coquettish and inquisitive.

The bird was so self-possessed, harmless, and unsuspecting, that I could not resist asking, "Where did the bird get so much good breeding?" This was met by the conductor, who reiterated his theory as sufficient for the facts: "You see, Professor, how tame he is, and gentle. He doesn't mind anybody. It's that which makes us all believe he is a pet from aboard of some ship."

In response to this I read a few lines from Mr. Merriam's (the birdman) published notes of an exploration for birds in the South. "The Purple Gallinule was common on the Upper Ocklawaha River, where it breeds. These beautiful birds were very tame, and would run about on the lily-pads without showing any signs of fear as we approached and passed them. The natives called these birds 'Blue Peters.'"

III

The citation did not effect any thing. Again, the conductor argued, the bird was so tame, it must have been a pet on a ship. Of course, it is barely possible that the bird may have been on a ship; for his gay cousin down South, the Purple Gallinule, has been known to board a vessel two or three hundred miles out at sea. But it would not be possible to give the bird suitable food on a ship, hence it could not live long. This bird has been known to come from the South and breed in New Jersey, then go back before the cold weather came. The finding it on the beach is the only unusual fact, as although sometimes the bird has been seen in brackish lagoons, it does not like the salt water, but frequents the still fresh ponds and such places.

We set to work to search the house for flies, the whole family going at it with zest. Here, again, the bird awoke our interest. With no flurry, but in a quiet and most sensible manner he would approach the person catching a fly, and take it gently, in such a knowing way, from between the thumb and finger. I was impressed with the belief that scent had much to do with the matter, as the insect was purposely so held that it could not be seen by the bird.

Again, the conductor suggested his theory that the bird was used to being fed from the hand. "Why, isn't it as plain as day. Just see how he takes these flies."



IV

I had a theory, too, which I did not broach, to wit: that it was a specimen of extraordinary good bird-sense, actuated by the keen demands of appetite. But it was so late in the fall that the flies were quite scarce, and we could not find one more. We then tendered him cake and bread crumbs, to which he took very gingerly, evidently not liking such rations. Some fresh water was set before him, of which he took a pretty good drink; after this, entirely of his own option and very quietly, he went to his cage, entered, and squatted on the floor,—and in a sort of dumb way seemed to say to its owner, “Please, sir, now shut the door.”

Bidding the boy who was with him to carry the box, the conductor and his singular pet left. Thus cooped up, with nothing of its natural environment, in two days the poor bird died. I saw him not long after a mounted specimen in the bird-stuffer’s shop. But the red garters had faded into a foxy hue. So too the rosy bill,—this bright golden tip had changed to a rusty brown. As for that quaint frontlet of polished red coral, it had lost both color and form, for it had shriveled up into an unsightly rosiny scar.

V

This sketch of Gallinule will lack completeness unless a little more is said of its appearance, and something of its habits at home. Both in color and form this bird is a showy object. From the bill to the end of its short tail it measures about thirteen

inches. Though a casual individual is seen in Massachusetts, and it has once been taken in Nova Scotia—and it sometimes breeds even in New Jersey—yet Florida is its own sunny home, where it is quite prolific, raising several broods in a season. It makes its nest in the rank vegetation near some inland water, not affecting that of the sea, though sometimes found where it is brackish.

The egg is an inch and a half long, or about the size of a pigeon's egg, "of a dull, dark, cream color, with reddish brown and amber spots and dots."

Studer says: "They prefer to live in families, and have a whole pond to themselves." Doubtless by this is meant the family constituted by the two parents and the young. "It is only on extensive pieces of water that several pairs are to be met with; and even in this case each pair strives jealously to keep possession of its own territory." Only in the winter is this bird found in bayous where the water is brackish. "On land it walks something like a chicken, and thirty or even forty of them may be seen searching for worms and insects among the grass, which also they nip in the manner of the domestic fowl. On such occasions the constantly repeated movements of their tails are rendered conspicuous by the pure white of the feathers beneath."

VI

In the spring the red frontal plate is especially vivid, and then with the white stripes on the flanks, and the pure white on the under parts of the tail, the

bird presents a rather striking and handsome appearance. "When in danger they run with great speed, and easily conceal themselves. They sit highly on the water, and are good swimmers; the head and neck seeming to keep movement with their feet, and the tail also taking part,—the bird picking its food on either side as it progresses. They travel chiefly at night, and probably on foot. "In early spring they arrive in pairs, though sometimes singly in the vicinity of their breeding-places. The voice of the bird is loud and powerful, sounding like *terr, terr*. Its warning cry resembles *kerr, tett, tett*, or like *gorr, gorr*, and at times its call is like *kurg, kurg*, expressive of fear. When on its wanderings its cry is "*keg, keg, keg*."

To attempt to describe in detail the colors of the plumage would hardly be satisfactory, but of some of its habits a few points can be clearly stated, and will be of interest. Could we see Gallinule at home, and among his own kin, we should see one possessed of some decided ornithic accomplishments. Its limbs are long and so are its toes. Its walk is stately, and it is a swift runner; and it has such a mincing, dainty stepping when pursuing an insect among the water-lilies,—actually running on the lily-pads like an airy creature.

As a swimmer it is graceful, using its feet as oars, and even utilizing its tail in the propulsion by beating upon the water. It is a good diver and subaqueous swimmer, propelling itself by using its wings as oars. It has a swift movement, too, when progressing through the dense reeds and rank rushes.

VII

The bird is also an excellent flier, capable of making a great distance; and, while foraging, it seems to make little difference whether it is by night or by day. They will move along the river's edge, picking off an insect or nipping the juicy grass. Thus it is seen that, when compared with the almost helpless Arctic Dovekie, the Florida Gallinule has a rich endowment of faculties, and is a bird of showy parts.

Such are a few memory notes of the life features of some of our rare New Jersey birds. But this peninsular State is really, as regards the Eastern States, Nature's middle kingdom,—a dividing land in respect to the fauna and the flora. So the birds we have mentioned as Estrays are somewhat eccentrics, being a little off the lines of territorial order, as if each had ceased to know his proper place. We have seen the Gallinule venturing too far north from its sunny home; and the Dovekie coming south from its boreal clime. In like manner this queer little creature, as one that is lost, was speared with a hay-fork in the hands of a rustic. The little stranger had actually got into a streamlet in Sherwood Forest,—the very place where Robin Hood had reveled with his 'band' in Lincoln Green.


Hence, we have been entertaining a number of avian strangers, not without some reserve, and hardly daring that abandon which is usual to us when in converse with familiar and expected guests. And such are a few of the passages in Nature's book, by which, with pleasant and thought-evolving surprises, interest is sustained in her story, ever charming and ever new.

CHAPTER XXIII.

ESTRAYS OF NATURE.—CONTINUED.

I

A Distinguished Foreigner, with some Facts about his Relations.

OW intensely interested a rural community will become over a rumor that a white blackbird is about in the woods. It was in the early autumn of 1879 that the residents of "The Pines" were excited by the intelligence that a white crow had been seen. It was argued, however, that it could hardly be a crow, as they usually went in flocks. If not a crow, then it surely must be a chicken-hawk. But who ever heard of a white hawk? Thus the wonder being magnified, the interest was increased; and the eagerness became general to possess the prize.

So, at last, the gun compassed the poor thing's death! Alas, but for ignorance, it might have been captured unharmed. And a rare and elegant creature it proved to be,—but a 'what-is-it' to the puzzled rustics. For a mere pittance it was sold to the village bird-stuffer. I went to see the much talked-of "white hawk," and found to my surprise a very beautiful specimen of the

sulphur-crested, or as sometimes and more accurately called, the Lemon-Crested Cockatoo.

The species is common to Australia and Tasmania. The bird is large, for though the tail is very short it measures twenty-two inches in length. Its entire plumage, excepting a little tuft of a delicate lemon tint on top of the head, is of a pure white. This tuft is erected or depressed as the bird's feelings dictate. The cockatoos number many species, but with very few exceptions none are more docile than the "sulphur-crest," which is often allowed the liberty of outdoors. It is almost certain that this specimen was the too much indulged pet of a summer visitor at the shore,—perhaps Long Branch,—and the poor bird venturing too far had got lost. However, its history as a pet I never learned.

II

Similarly "a strange animal" was sent me about the same time, which had been captured in a hennerly where it had inflicted some carnage. It was simply an albino ferret,—an escape from its owner. Such instances, until explained, have a charm for the ignorant. But it is the casuals previously described which interest the naturalist, since these borne by stress of weather, wind or tide are generally unwilling wanderers from their own faunal province. But such facts "are cavaire to the general," from whom the finding an English cuckoo laying its eggs in the nest of American birds would elicit nothing, though it would set by the ears every ornithological institute in the world.

But only let it be known that a white blackbird was seen flitting through the trees, and the general interest is all agog. I remember well the visit to our village shade trees of an albino robin, and all the guns in the community were brought into service. To my joy the bird escaped.

Near my home a boy found a nest of young robins, which he took. In the brood was a black one. This he raised and sold for a trifle to the innkeeper. The possession of this *rara avis* told profitably on the man's business, attracting many of the curious-minded to his place to see the "black Robin Redbreast." Soon the novelty began to wane, when its owner proved his *finesse* by not allowing the interest in the show to die entirely on his hands. A raffle was announced; a man from a distance won the bird, which was the last I heard of the "black robin."

III

These "freaks of Nature," so-called, are simply instances of unhealthy action,—the suppression or undue activity of certain physiological functions. If the white be unnatural the term used is albinism, and melanism where the black is abnormal.

That was a fact of scientific importance, when an American robin was taken wild in Great Britain; and so, if instead of a cockatoo, escaped from its cage or stretching its parole, an English cuckoo had been discovered wild in "The Pines," that would have been one of Nature's Estrays, and a subject of wide-reaching interest.

My bringing together the cuckoo and the cockatoo, though accidental, is quite natural to the systematist, for both birds are members of the great division *Scansores*, or climbers; and yet as to ability in this direction, the two stand at the extreme opposite ends of the scale. That is, the parrot represents the climbing faculty in its highest performance, and the cuckoo in its poorest. The best exercise of this climbing faculty is noticeable in the curious habits of the little paroquets. These birds, in their wild state, will swing by one or both feet when picking food in the trees, thus eating in this strange position; and in like manner they will sleep head downward, suspended by the feet from the perch in their cage.

The philosophical naturalist views each species of animal or plant as a denizen of a certain geographical area. It belongs to a fauna or flora which has its proper or natural domain; and such he regards as its life province. So to his mind's eye the sight of a living thing brings up a mental picture,—a bit of scenic physical geography. Hence, to find the great White Cockatoo in a scrub-pine forest in New Jersey, is to see the bird in a strange habitat when contrasted with its proper home among the giant Eucalyptus-trees of Australia.

In a word, these cockatoos belong to the zoölogical division of the earth's surface, known to the naturalist as the Australian Province. And this life region reaches into New Guinea, and even some of the farther western islands; for our lemon-crested bird has been taken in Sumbawa, the central one of the Java

Islands,—hence this entire faunal area is sometimes called the Australian Province.

IV

As to the systematic name of the bird, some give *Plectolophus sulphurea*, and others *Cacatua sulphurea*. I prefer the last, for the two reasons:—it is the better known and more expressive, as the word *Cacatua* really means cockatoo.

These giant or lemon-crested cockatoos are most at home in Australia, where they outnumber the crows with us. They like the higher parts of trees, hence the very tall *Eucalyptus* affords favorite perching-places. Their nesting is in the hollows of trees, crevices of rocks, and any depression that will serve the purpose. They are very gregarious and sociable, associating in immense flocks, delighting in the company of their own kind, and manifesting their enjoyment in a Babel discord of unmusical cries.

Australia has a number of species of cockatoos; some will swarm on the ground in a gabbling throng. The species which especially concerns us now,—this, the great and elegant ‘lemon-crested,’ is so numerous in some parts of Australia as to cast a shadow on the earth when a flock goes screaming through the air. Says the naturalist Nicols, telling what he saw:—

“In traveling from Brisbane to Ipswich on one occasion, in the old stern-wheel steamer *Settler*, for two hours at a time a flight of these birds continued crossing the river southwards in dense array, their united screeching making so fearful a din that neither

could we hear each other's voices nor the noisy working of the steamer's paddle. A few minutes in the parrots' house at the Zöological Gardens will try most people's nerves; but here were tens of thousands of cockatoos rending the air with their harsh cries. The farmers of Australia know to their cost what havoc they commit when they swoop down upon his green and succulent maize."

V

That which, even more than its gay plumage, gives the parrot its popularity, is a reputation for extraordinary avian intelligence. And statements are made of these birds which try one's belief. The following by a journalist is concerning a gray African parrot:

He shows a great deal of curiosity about what happens in the house, and one day watched the opening of a box and said: "What are you doing there?" He calls himself pet names, such as "Polly Wolly," "You rascal," "You old scalawag, Polly." In a thunderstorm he was frightened, and at a very loud clap he jumped on his perch, and in a human, frightened tone cried out "What's the trouble?" These are only a few specimens of the words and sentences that he has acquired, and he is constantly learning, and he is often overheard practicing the words by himself. No idea can be given of the wonderful variety of expressive tones that he employs. His range is beyond that commonly used by ordinary people.

The writer adds that this bird could imitate cat-fights,—that he picked up snatches of tunes very easily, and learned to whistle whole tunes with good expression.

VI

I find carefully put aside some notes from an article in *Appleton's Journal* many years ago. As a rule, parrots do not learn to speak by rote. A phrase repeated a hundred times will often never be learned, whereas a sharp word, an angry expression, or a quick retort is caught instantly.

They tell a good story in Newgate Street, London, of a parrot, or of two parrots rather, a gray and a green one, belonging to Morley, a tradesman in the Old Bailey, just opposite the prison, which is vouched for as true in the strictest sense. The man had a wonderful "bird-sense," and his power of training birds became famous throughout the metropolis. He had taught his green parrot to speak, whenever a knock was heard at his street door; but when the bell of the same door was rung, he had taught the gray parrot to answer. The house, still standing, has one of those projecting porches that prevent the second story from being seen from the pavement. One day a person knocked. "Who is there?" asked the green parrot. "The man with the leather," was the reply. The bird answered "All right!" and then became silent. After waiting some time and not finding the door opened, the man knocked again. "Who is there?" again asked the green parrot. "Who's there?" cried the porter outside. "It's I, the man with the leather; why don't you open the door?" "All right!" repeated the parrot, which so enraged the man that he furiously rung the bell. "Go to the gate!" shouted a new voice, which

proceeded from the gray parrot. "To the gate!" repeated the man, seeing no gate, "what gate?" "Newgate! Newgate!" responded the gray parrot. The porter was enraged; but, stepping across the street, the better to answer what he supposed to be the insolence of the housemaids, he saw that he had been outwitted and teased by a couple of parrots.

VII

What our white cockatoo may have been, let us surmise from the following:

This same Morley had been employed by a gentleman, who had heard of his knowledge of birds, to purchase for him a white cockatoo. The price was of less importance than the health, disposition, and breeding of the bird. She was to use no bad language, be subject to no fits of passion,—have been trained to be handled by women and children,—and to be cleanly in her habits. Morley took great pains to please his employer, and at last sent him home, perhaps, the most perfect specimen of the breed ever seen in London. As I saw the bird ten years ago, nothing in the way of ornithological beauty could surpass it. Of pure snowy white from top of crown to tip of tail; without a speck of lead, gray, or crimson on a single feather; free from all signs of cross with paroquet or macaw, and in shape, attitude, bearing and action as distinguishable as a blooded horse. "Beauty," as she was called, stood unrivaled. When she was sent home there was perfect satisfaction, the employer was pleased, as he well might be,—the family of daughters

in ecstasies of admiration,—and Morley richly remunerated for his trouble. But the bird would not talk. This was attributed at first to fear, then to change of diet, and at last to absolute inability. Of course, there was great disappointment. Beauty's cage hung at the dining-room window; every visitor was in admiration of her spotless plumage and faultless shape, and everybody sympathized in the disappointment of her irremediable defect.

"What a pity it is she does not talk!" remarked a person one day at dinner. "She would be worth her weight in gold."

"She almost cost it as it is," said *pater familias*. "The creature is a cheat. Fine feathers don't make fine birds; certainly not fine parrots. I paid ten guineas for her, and she can not say one word."

"Ah, but I think the more! What's the use of talking if you have nothing to say?" came in clear, articulate sounds from the cage, to the amazement of the family and guests.

That settled forever Beauty's supremacy.

Happy as this rejoinder was, it by no means gives a full idea of the intelligence of the bird. She would not learn what you tried to teach her, and she would learn what she ought not. Her owner, Dr. Hall, one day peremptorily discharged a servant. After shutting the door of the study, the latter exclaimed in anger:

"Curse him! Dr. Hall is a great rascal!"

The bird heard and caught the words, and could never be made to unlearn them. Dr. Hamilton Roe, waiting one morning in Dr. Hall's ante-room, observed Beauty, and jocularly said:—

“Who are you?”

“*Beauty’s Dr. Hall’s trumpeter—ro-to- to-too!*” replied the bird; but immediately becoming grave, and edging confidently toward the side of the cage, she added in a lower voice,—“*Dr. Hall’s a great rascal!*”

VIII

The following is about the common green Amazon parrot. It is so long ago that it should be written in the past, but the present tense gives vivacity:

A gentleman residing in Wilmington, Del., owns an Amazon parrot. It possesses a fluency and variety of language rarely equaled by the African gray. As soon as her master returns from the office to dinner, Polly begins to salute him in fondest expressions,—“Papa, dear, come and kiss your pretty green pretty! Come in, come in, papa, and give us a kiss, and a thousand more!” When the footman enters the room, she says to him, but never to any one else,—“Fetch my dinner, James, I’m hungry. Stupid fellow! I can’t eat my head off!” To a bachelor friend, who frequently spends several weeks at the house, Polly has but one question never put to any one else, “Oh, you gay deceiver, why did you promise to marry me, and didn’t?” To a gentleman, a near neighbor, whom she had once overheard saying at the after-dinner table, “The bird’s invaluable; five hundred dollars would not buy her, if I owned her,—would it, Polly?” she always addresses the salute the moment he appears—“Five hundred dollars would not buy Polly, if I owned her! Five hundred dollars! Five hundred dollars! Why, the bird’s invaluable.”

The Wilmington parrot certainly discriminates between the sexes and between conditions in life. To a well-dressed young gentleman the remark is, "What a get-up! What a swell you are!" To a young lady, on the contrary, fondling and kissing, she says, with deference, "Is she not nice—so nice!" She was once lost, stayed out over night, and grief and searches ruled the disconsolate household. At daybreak, however, a workman going to his job was hailed by Polly from a pile of bricks, with the call, "Take me home! Take me home!" Whether the night-chilled bird did or did not attach meaning to the words, it is certain that the workman did, and that he made a good thing by restoring the stray bird,—and we may be glad that Polly fared so much better than did our lost cockatoo.

IX

It is said that macaws are the best talkers of the whole species, providing they are reared from the nest. And not only are they able to talk, but they also sing in a peculiar soft voice. In sweetness, though not in compass of musical notes, they are, however, excelled by the grass or green paroquet.

While the cockatoo is the hardiest of the parrot tribe, and the most easily tamed, it is at the same time the most difficult to teach to talk at all well. Its disposition is more gentle, however, and its obedience more implicit than any of the other species.

There are some wonderful facts in singing recorded of parrots, but among the bird-trainers it is set down

that singing is below speaking as an accomplishment in birds. There is hardly a songster of the wood that can not be taught music, and a canary will give a descant above the reach of any parrot. But, besides parrots, it is only the raven, jackdaw, and magpie that possess the power of speech, even in a low degree.

It is a fair question—Do these birds *know* what they are talking about? Says Nicols:—

“It might naturally be anticipated that where some half-dozen sentences, applying to frequently recurring incidents in daily life, have been acquired, the bird should apply them now and then with striking appropriateness, as in the following instance: At a parrot-show it was arranged to award a prize to the bird which did highest justice to its training in elocution. Accordingly, after a number of birds had been examined, the cover was lifted from the cage of an African gray parrot, which immediately exclaimed, ‘What a lot of parrots!’ Obviously there was not much chance of bettering this, and it speaks volumes for the intelligence of the bird’s owner.” I think the reader should peruse the last sentence over again. It is exquisitely sarcastic.

X

The untrained and unobservant mind will always be impressed by examples of this kind coinciding with a preconception, and ignore the far more numerous instances of inappropriateness. Some years ago Mr. Nicols made an attempt to get at the truth by a systematic record.

Accordingly, he began observations on a Molucca cockatoo, which had been in the family twenty years. He says: "The bird had a small but choice *répertoire* of sayings, and in order to ascertain whether he was conscious of using them with any propriety, I kept a note-book for recording the circumstances under which he uttered them. When the entries had reached two hundred, the evidence to the contrary had become so overwhelming as to render it unnecessary to continue the observations. The same result, I imagine, would follow from a similar test applied to any of the numerous species whose powers of mimicry are remarkable."

It is noticeable in this citation that the bird had a small stock of well-chosen words; hence it is supposable that it could use them with fewer risks of blunders than those birds whose memories are laden with a heavier list. And it would seem at first blush that the experiment had made out a case. Still, it hardly seems proven.

XI

I feel like offsetting Mr. Nicols's conclusions, by giving what seems to me the best authenticated parrot story, the one found in Gosse, a writer on birds. It is a part of a letter written to a gentleman by the sister of the owner of the bird, an African gray:—

"As you wish me to write down whatever I could recollect about my sister's parrot, I proceed to do so, only promising that I will tell you nothing but what I can vouch for as having myself heard.

“Her laugh is quite extraordinary, and it is impossible to help joining in it one’s self, more especially when in the midst of it she cries out, ‘Don’t make me laugh so. I shall die! I shall die!’ and then continues laughing more violently than before. Her crying and sobbing are curious; and if you say, ‘Poor Poll! what is the matter?’ she says, ‘So bad! So bad! Got a bad cold!’ and after crying for some time will gradually cease, and, making a noise like drawing a long breath, say, ‘Better, now!’ and begin to laugh.

“The first time I ever heard her speak was one day when I was talking to the maid at the bottom of the stairs. I heard what I then considered to be a child call out, ‘Payne! (the maid’s name) I am not well! I am not well!’ and on my saying ‘What is the matter with the child?’ she replied, ‘It is only the parrot; she always does so when I leave her alone, to make me come back.’ And so it proved, for on her going into the room the parrot stopped, and then began laughing, quite in a jeering way.

“It is singular enough, that whenever she is affronted in any way, she begins to cry; and when pleased, to laugh. If any one happens to cough or sneeze, she says, ‘What a bad cold!’ One day when the children were playing with her, the maid came into the room, and on repeating to her several things which the parrot said, Poll looked up, and said plainly, ‘No, I did n’t.’

“Sometimes when she is inclined to be mischievous, the maid threatens to beat her, and she says, ‘No, you won’t!’ She calls the cat very plainly, saying, ‘Puss!

Puss!’ and then answers, ‘*Mew!*’ But the most amusing part is, that whenever I want to make her call it, and for that purpose say, ‘Puss! Puss!’ myself, she always answers ‘*Mew!*’ till I begin mewling, and then she begins calling ‘Puss’ as quick as possible.

“She imitates every kind of noise, and barks so naturally that I have known her to set all the dogs on the parade at Hampton Court barking; and the consternation I have seen her cause in a flock of fowls, by her crowing and clucking, has been exceedingly ludicrous.

“She sings just like a child, and I have more than once thought it was a human being; and it was ridiculous to hear her make what one would call a false note, and then say, ‘Oh, la!’ and burst out laughing at herself, beginning again in quite another key. She is very fond of singing ‘Buy a Broom,’ which she says quite plainly, but in the same spirit as in calling the cat, if we say, with a view to make her repeat it, ‘Buy a Broom,’ she always says, ‘Buy a *brush*,’ and then laughs, as a child might do when mischievous.

“She often performs a kind of exercise which I do not know how to describe, except by saying it is like the lance exercise. She puts her claw behind her, first on one side and then on the other, then in front, round over her head, and whilst doing so, keeps saying, ‘Come on! Come on!’ and when finished, says, ‘Bravo! beautiful!’ and draws herself up.

“Before I was so well acquainted with her as I am now, she would stare in my face for some time, and then say, ‘How d’ye do, ma’am?’ This she invariably

does to strangers. One day I went into the room where she was, and said, to try her, 'Poll, where is Payne gone?' and to my astonishment, and almost dismay, she said, 'Down stairs.'

"I can not at this moment recollect any thing more that I can vouch for myself, and I do not choose to trust to what I am told; but, from what I have myself seen and heard, she has almost made me a believer in transmigration."

XII

As to the lady's "almost belief," it goes for the saying that if any spirit did possess Polly, it was simply a spirit of mischief. But I must return to Mr. Nicols's cockatoo, to show its extraordinary intelligence, and being of the same species, perhaps it will make appear some probabilities concerning that fine bird so unfortunately killed in "The Pines."

The bird "had been in the family twenty years, and was not only much attached to myself, but so desperately inimical to every one else that no one dared to touch him, either in or out of the cage. During the summer he passed most of the day flying about a large country garden, or boring holes in the elm-trees. At times he would follow the gardeners, watching their operations in digging and planting, now and then plucking a fine rose, or destroying a choice plant with perfect impunity; for, on any attempt at interference with his amusement, he would dash at the offender like a hawk, and usually inflict a severe wound. To myself, however, he was as gentle as a dove,

"At my call he would descend from the highest tree, perch upon my head, and express the keenest pleasure by combing my hair, as though he were preening his own feathers. As long as I remained in the garden he never left me, but kept flying round me, over the tops of the trees, and back again to my shoulder, with every demonstration of satisfaction. On cold winter nights I often took him into bed, where he soon made himself quite snug, and by some means avoided injury from my movements.

"The strong attachment he had formed for the Newfoundland dog afforded an opportunity for getting up a little performance between the two, much to the astonishment of visitors. I trained the dog to sit quietly while the cockatoo climbed up his back, walked along his head, sat upon his nose, and made a polite bow to the company. Then, at a given signal, the bird flew to my hand, and the dog carried the hat round for contributions to a fund being raised by a lady in aid of the Society for the Prevention of Cruelty to Animals."

It is a little remarkable that the white cockatoos, really among the giants of the parrot tribe, should be generally the most gentle and docile of their race. Says a writer, who possessed a very remarkable African gray: "She had no winning ways, made no friends, did not discriminate character, and left the memory of only a single trait worthy of record." This was her remarkable mimicry of laughter, which, no matter what its peculiarity, she would take the laughter off to perfection.


"As a friend the parrot ranks low. Other animals, many certainly, if not all, will stand by a friend when in danger,—the parrot never. It is, besides, a bird of bad temper, irascible, revengeful, capricious; admired for eccentricities, but seldom winning love. The sharp beak and jealous eye are always on guard."

It makes me feel sorry to have to wind up this sketch of these distinguished foreigners with such a statement of the true inwardness of these birds as a class,—some exceptions, of course. But it would not become me to leave the truth hidden under the glamour of these so intensely interesting animal eccentricities.

CHAPTER XXIV.

THE CROW — THE COSMOPOLITAN BIRD.

I

FTER our distinguished foreigner, for a reason that will appear, some attention must be given to a very ordinary person who in Latin is known as *Corvus*, and who, under the name Crow, has a very wide-reaching notoriety, but not an enviable reputation. There is hardly an evil thing that the poets in imagination, and the people in ignorance, have not laid to the charge of this great bird in the sable suit. Says a writer: "The crow, I regret to feel, has a terrible score to wipe out, for the whole world has conspired to speak ill of it."

And this evil-speaking is serious; for it is not with *Corvus*,—as we found it with the cat-bird,—that he is held of small account, nay, even despised. It would almost seem that the crow is among the birds the one enemy of mankind. For, have not the poets,—not to tell their names, since the pack seems on maligning business bent,—branded the bird with unwholesome epithets? They call him ribald, foreboding, dastard, ignoble, lurking. But enough of such aspersion. Hap-

pily there is a grand exception; for the reader must know that the raven is a crow; so one Green—may his laurels ever be verdant!—sings thus:

“The honor’d prophet
Did more than courier angels greet
The crows, that brought him bread and meat.”

It is true that if we write his biography fairly, some hardly commendable traits must appear; but he will not prove an unmitigated scamp, even when all is done.

Just as in proceedings at law, when the prosecutor first brings before the court the ill-doings of the individual on trial, with the evidence thereof, so let us put the bird forward as a delinquent, and then listen to his defense.

II

And, first, as to the family of the culprit. The name of the genus is *Corvus*, and the typical or representative member is the Raven, who is honored with the alliterative name, *Corvus corax*,—the first word being the Latin for raven, and the second the Greek for the same,—literally the Raven Raven, as if the chief of a noted tribe of the Red men should be known as Crow-Crow, which would simply mean the eminent crow.

In the cities west of the Mississippi River, the raven almost takes possession of the streets with the pertinacity of human vagrants, coming on the stoops and almost demanding food. This bird is somewhat autocratic, not indulging in familiarity with the crow proper, or permitting any liberties from the same.

Although the number of species of the crow family is very large the world over, it will suffice to mention three in our own country. The raven, the American crow, and the fish-crow, the last being the smallest of the three. My narrative will deal principally with the second one mentioned, *Corvus Americanus*, the common crow.

This fine bird is ubiquitous,—or as the rural grumbler puts it, he is everywhere, and pretty much all the time,—since as a rule, he does not migrate. He is in numbers on our farms; he is on the prairies, and a dead buffalo or any other animal soon has its bones cleaned. That rancorous one-note cry can be heard far and wide. I have even seen them flying over the tops of the White Mountains in a line to the sea.

But the American crow is seen at mountain heights compared with which the Appalachians are mere hills. And in the regions of the great cañons of the Colorado, these birds can make that hoarse one-note sound phenomenal. The stream that rushes through a narrow mountain gulch will produce one continuous roar, because the resonance is not divisible by the ear. Think of the Great Cañon, a chasm with perpendicular walls as high as the top of Mount Washington! At their base is a stream, and certain savant explorers are wending their course on the surface of the waters,—almost in darkness. They look upward and see a line of the blue sky. A formless haze seems to be crossing it, and from that animate shadow comes down in hoarse reverberations from wall to wall that rancorous sound, “caw! caw! caw!” How that basso swells and fills “the

vast profundity obscure!" It is an ogreish solemnity that sickens and appalls, as if the sound came from an unseen drum corps in the air.

III

The misfortune of the bird's character is his omnivorous appetite. To a hungry crow nothing comes amiss. In the winter he is often driven to severe straits. Then the chicken-yard may get a visit from a ravenous bird. In truth, when hunger presses, the bird will bring the courage of combination, and attack nobler game. Let it be said just here: For a long time, so close is the resemblance of the American crow to the carrion crow of Europe, they were regarded as identical. The cry, "caw! caw! caw!" of our bird is not quite like that of the carrion. But Audubon was the first to separate the species by pointing out their differences. Still changing the name did not change the nature. In their appetencies and conduct they are very much the same.

It was but quite recently that the following incident occurred in a field adjoining the St. Albert Glass-works at Anecht, Nord, in France. The ground was covered with snow, and about a hundred carrion crows had settled on the field in search of food. Probably drawn by the spectacle, the dog of the director went into the field, but not far from the establishment. About thirty of the birds entered into a combination to attack the dog. For this purpose they divided into two parties, one assaulting behind and the other in front,—which maneuver took from the animal the possibility of defense or retreat. The birds would rise some six or seven

feet in the air, then pounce upon the poor beast, each one giving his peck, or bite nearly at the same place. Thus they soon made a serious wound in the neck, and one of his eyes was destroyed. The cry of the poor beast brought the workmen to his deliverance; but the crows, loath to lose their prey, lingered on the spot some time after the rescue.

The American crow, we may as well admit it, is upon occasion a chicken-thief. He has been known in the spring to pounce upon a brood and bearing a chick away, to devour it. So in some localities, the mother-hen makes the same outcry to her younglings at the sight of a crow in the air that she does when seeing a hawk. But this is surely exceptional. In gauging the character of birds, as well as of men, an obstacle to a righteous judgment is the suppression of any truth. Let us tell all.

Our common crow is in some respects an uncommon bird. He would almost seem to have a conscience,—for he is never a coward, except when on ignoble business bent. With a chance at noble game he is at once courageous. “He delights in annoying his twilight enemies the opossum, raccoon, and the owl. He will even follow by day a wolf, a fox, a panther, or any carnivorous beast,”—not to fight it, however, but in the hope and apparent belief that the animal will get destroyed by man, and hunter-like he wants to ‘be in at the death.’ Several birds will combine and “pursue a hawk or eagle with remarkable vigor,” though it is believed they do not kill any birds, except such as are in the callow state. Now out of this courage comes an inter-

esting fact,—the hawks hold the crow in respectful deference; hence, the poultry-yard is virtually protected from hawks when the crows are near.

IV

I am inclined to think that much of the common crow's evil reputation is misplaced, and belongs rightly to the fish-crow. Hence, I will give Dr. Holmes's sketch of this bird, published many years ago:—

“This species is gregarious, yet as flocks sail high above the water, they seem to be paired off. These aerial excursions last for hours of a fine morning, after which they all descend near the surface of the water, and fish for half an hour, when they alight on the trees near the shore, and keep up their gabble, pluming themselves for hours. Again, repairing to the water, they fish until sunset, and then fly off thirty or forty miles to roost on the loblolly pine, uttering scarcely a single note as they retreat; but, on the approach of day, the woods echo to their matin cries of gratulation; and they promptly return to the sea-shore, noisy and happy. They are soon employed over the bays, rivers, wharves, salt-ponds, and marshes, searching for any sort of garbage to appease the appetite. They do not scruple to rob other birds of their eggs and young, even watching the departure of the cormorant and white ibis from their nests, which they plunder at the first opportunity. In the salt-marshes they catch and eat the fiddler crabs. They pursue with alacrity the smaller gulls and terns, which they compel to disgorge the small fish which they have caught in sight of their oppressors. But the

fleeter wings of the gulls often enable them to escape. They are able to capture fish alive with considerable dexterity; but can not feed upon the wing, so are obliged to retire to some tree, stake, or sand-bank. The ordinary cry of this species is *ha! ha! hæ!* and is like a faint mimicry of the common crow. At other times it is more like an interrupted or half-stifled expression of pain!"

Still our common crow will upon occasion rob birds' nests of their eggs, and perhaps of the young also, but I can not assert this as true. But either way, the act is not always committed with impunity. There is a little avenger near. And an amusing sight it is to witness, when one of these large birds is caught at his nefarious practice, by these tiny kingbirds, who generally resent such matters in pairs. How they will pursue the big fellow, who is doing his very best to get away. There is one on his back, pulling out the feathers. The other one has got in a good pick underneath, and the big robber utters a 'caw!' of pain, at the same time trying to strike the brave little pursuer with his wing. This attempt is futile. But the little fellows like it; in fact, are almost jubilant over the crow's efforts, as these only weaken his flight, and give additional advantage to the little heroes, who now adroitly inflict extra punishment. At last, satisfied, the small birds return to their nest; and the poor crow, after getting well away, will alight to dress his wounds, and arrange his damaged uniform.

I have noticed what seemed to me a suggestive fact, that in these encounters it was always a solitary crow,

entirely away from all others. Thus it appears to me that these egg-thieves are exceptional birds,—as one might say, the ‘scalawags’ of their respective communities. And furthermore, since, as we shall see, these birds are eminently sympathetic on home lines, and entertain a communal loyalty, it may mean that these exceptional members do not have the common respect of the tribe, for I have never seen any crow go to the aid of his fellow when in trouble on account of his ill conduct.

There are times, when the tide is far out, that the crows fare well on what they find of living things on the flats. It is sometimes a bivalve-shell, an oyster, or a qua-hog. Now, it is no easy matter to open the latter. Yet the crow is competent for the task. It was, a few years ago, not far from my home, a frequent occurrence for this bird to take a bivalve in its claws, and, rising high in the air, let it fall on the top-rail of a fence, and so crack it, then descend and extract the contents. Now, what a delicate poisoning, what a nice calculation did all this imply! The feat requires no mean intelligence.

V

Says Audubon: “Our crow feeds on fruits, seeds, and vegetables of almost every kind. It is equally fond of mice, snakes, lizards, frogs, and other small reptiles. It looks upon worms, grubs, and insects as dainties; and, if hard pushed by hunger, will devour even putrid carrion. It plunders the fields of their superabundance, and is blamed for so doing; but is seldom praised when it chases the thieving hawk from the poultry-yard.”

Especially in the winter do crows love to congregate together, and they roost in incredible numbers in some favorite place, such as a cedar swamp or pine wood, where the evergreen foliage affords a screen from the winds. Towards evening in some localities they may be seen moving to their roosting-places in many thousands. In this way they are highly social; but in the breeding season, unlike their foreign cousins, they sensibly disperse, nesting in isolated spots, or at most with a very few simply within calling distance. A favorite selection is the edge of forests, in high trees. All this comes of the wise circumspection of the bird, who is so suspicious of the murderous gun, that he desires an open and elevated eyrie from which he can watch his enemies.

The nesting in the Middle States begins in early May. The birds separate in pairs. Having chosen a fork in the tree, the foundation is laid of coarse twigs, and even small sticks. The structure goes up with cedar-bark, moss, and grass, with mud worked in, and finally finished with soft bark fiber and leaves. The eggs are usually four. Their size is about 1.65 inch in length by 1.20 in thickness, which, with their showy colors, make them fine objects, for they are green, varying in shade, and are covered with blotches and spots of different hues of brown. Only one brood is raised in a season.

If we may judge from the raven, the nuptial constancy of the crow is beautiful. It has been proven in the Old World that a pair of ravens were mated for thirty years; when it is supposed one of them died.

The longevity of these birds is wonderful. And there are other traits that are not less than admirable. That of circumspection, for instance. The watchfulness of the bird! It is utterly impossible to approach them with a gun, unless it be done under some stratagem. The bird is literally lynx-eyed. And any thing noticed by one is at once communicated,—the cry taken up, and passed on,—and quickly all are away and out of danger.

But there is a beautiful union of sympathy with this circumspection. The crow is not a selfish bird. In the time of nesting the cry of one bird will call to its aid others that may be within the sound, nor will courage be wanting.

And there is something like executive ability in these birds,—some attention to details. Disorder would never do in the matter of picking up the scattered community for the evening return to the roosting-place. There was an immense crow-roost by the Conestago River in Pennsylvania. Every morning the formidable throng rose like a black cloud in the air, and while thus aloft the mass separated, forming four divisions, one flying east, another west, another north, and another south. The four divisions would all return at evening, and so each morning and evening the same maneuvers were repeated.

As showing a fine conservative tact, says Lunt: "It is amusing to observe the cuteness of these crows whose young are nested in this tall pine. Only a stifled suppressed scolding croak escapes them now, as though it was hard for them to keep in so long. If they could

give a few loud disagreeable caws, it would be such a relief. But it behoves them to be silent, that their enemies' attention may not be directed to this one place on earth, wherein is centered all of their affection."

This is very prettily said. And how easy to raise a commotion, and bring out the cunning of these parent-birds in behalf of their young. Let the man with the gun only come along. He need not shoot,—the sight of the thing is enough. Bless me! where are the birds gone? Ah, see, they are yonder acting for all the world as if they were frantic about a nest down there. And what a distracting cry is that, "*caw! caw! caw!*" now. And all this is a device to draw the gunner away from the spot that contains their little ones.

I think, too, there is shown some of this organizing instinct in the fact that they do not nest in "roosts." The crow, known as the rook in Europe, nests in immense rookeries of such magnitude, that as the young are sold for food, the owning of a rookery is a matter of profit. But our crow at pairing-time breaks up its gregarious habits,—that is, these immense communities, sometimes numbering many thousands of individuals, scatter and seek in pairs, as we have described, places in which to raise their young. Here, then, we see a nice instinct,—these birds desire isolation as a sort of domestic bettering of things. But, shall we overlook the fact that while the spring is the disorganizing time, the fall-call is for a reorganization, with the added young birds, hence under some new conditions; for we must suppose that the inexperience of these new members will need some forbearance from the old ones.

VI

Notwithstanding the wariness of these birds, the crows, owing to their great numbers, are the victims in their winier retreats of the most wanton destruction. Men will spend money and time, and submit to exposure to visit a distant crow-roost, just for the fun of shooting at them. This, however, is not possible until they have deceived the birds by a special ruse. At Sandy Hook are dense growths of cedar, in which are some noted crow-roosts. The trick of the gunners is this. A company for "the shoot" is formed of not less than three, because, they say, a crow can count 2, but not 3. A hut of cedar-boughs is put up. All being ready, the three men, each with his gun, leave the hut. The birds are all excitement, and the noisy commotion is intense. Now, the men walking in line return to the hut, which they enter, closely watched by the old birds. Next one man leaves the hut, and goes off a distance. Then the second man comes out, and in like manner goes away. Now the birds are deceived. They suppose the hut is empty, and, their confidence returning, are entirely off their guard. A murderous fire now pours from the man who is concealed, and the birds in their perplexity for several minutes are exposed to the repeated firing. They, however, soon find out that the place is dangerous, and get away. There is then a cessation; and after awhile the miserable artifice is repeated, the second man now taking his turn to shoot. This, after another panic of the birds, is again repeated so as to give the third man his chance. The result of this so called "capital

fun" is the slaughter of a number of birds, not one of which is made to serve any purpose of utility, for all the dead birds are left just where they fell.

The carrion crow has in like manner been hopelessly confused by the number three. So it would seem that this bird and our common crow find the same limitation to their mathematical ability. I find, however, that the crow in France has larger mathematical capacity. About a hundred years ago the ranger of Versailles, one Leroy, under the pseudonym of "the Naturalist of Nuremberg," wrote a series of delightful essays to disprove the notion of Buffon that an animal is a mere animated machine. He says that the crows became destructive of game in the park, so the plan was fixed to shoot certain old birds when they came to their young. The first shot told, but the man concealed in his hut could not get another opportunity, for the old birds watched him go in. So he took a man with him, and sent him forward, while he only went into the hut. This ruse did not deceive the birds, who kept out of the way. Next day he took two men, and sent them on. Still the birds understood the trick. He now waited another day, and then caused three men to go with him to the hut, and these were in like manner sent away, he alone remaining inside. But the wily birds still kept a true account, and so saved themselves. The ranger next day took four men, who in due order were sent away, he alone remaining concealed. Now the arithmetical powers of the birds were exhausted. They could not count five, and so the artifice succeeded, for the poor things were now deceived.

I must narrate one more incident of this kind, as exhibiting a varying ability of these birds to enumerate. In England it is the custom to put a little hut of boughs in a wheat-field, in which is a boy whose duty it is to scare away the rooks. The owner thought it would help matters if he could get one or two rooks, and suspend them on sticks as scare-crows. The birds were around in great numbers; but they employ sentinels of old and vigilant birds, and not a shot could the owner get, for up went the signal "c-a-w!" on the first show of danger. He then told the boy to go out, and even leave the field. Up again went the signal, which was taken up by each sentinel. Feeling himself outwitted, he left the field, but soon returned with two men, and all three entered the hut. Two were sent out. Still the cry of beware,—the "*caw!*" of the sentinels went up,—and the man could not get a shot from his place of ambush. He next took with him three men, who in due order retired from the field,—himself, the fourth, being left in the hut. Now the ruse succeeded. The sentinels could count three, but not four. So they flocked back to the field, supposing the hut to be empty, and two of their number were shot.

It thus seems that the American crow is not the equal of his foreign cousins at enumerating,—and that the French crows excel in this art. But, are not the French superior at mathematics? I hope it will not offend, if I show these painstaking sportsmen who kill our home crows "just for fun," that they too are not the equal in sagacity to certain foreigners who delight in a similar diversion.

VII

What keen delight monkeys as a class take in teasing, and even torturing each other, and what extraordinary trouble a monkey will put himself to in order to gratify this hateful propensity. In India the wild monkeys will feign death, lying immovable on the ground for an hour or two at a time,—literally will make believe to be dead, thus inviting a bird of prey, especially some dupe of a crow, to come and feast on his body. And woe to the deluded bird, which is thus enticed within grasping reach of this treacherous fiend. He is caught in a trice,—and the delighted little monster dancing in glee inflicts upon the astonished bird every agony within the scope of his invention, the favorite one being that of plucking the victim alive. I will not dwell upon the moral similitude of these monkey-didos and the killing of the crows because they are not ‘up’ in arithmetic.

In some foreign lands, where opportunities of observation are better than any at our command, naturalists seem to have discovered some recognition of moral principle among crows. Where thousands together are engaged in building their nests, the labor is onerous, due in part to a scarcity of material. Hence the temptation to pilfer from a neighboring nest. Let a bird but communicate the fact that it is robbed, and the community will inflict severe punishment on the offender.

I had a farmer neighbor who employed an effective way of keeping these birds from his newly-planted corn. He always had in store a good supply of the large wing

feathers of the turkey. He had no objection to the birds during the ploughing and working of the ground—as he said, they were beneficial in eating insects. So after the corn was in the ground, in the evening when every crow was gone, he would in a few places of the field scatter the feathers. Suspecting nothing, the flock would return at the early dawn next day. But not one would alight. The first bird to see the feathers would give the alarm, and the air would be rife with the cries of the frightened birds, whose fears would not allow them to alight, and their curiosity and perplexity would hardly permit them to leave. So circling in the air, and keeping up a strange noise, which undoubtedly was nothing less than a consultation and common expression of surprise and alarm, I am disposed to think that the natural suspicion of the bird enabled it to make a deduction from what it saw. To the bird-mind it seemed that a bird slaughter had taken place. But the bodies were not there,—the thing had a mysterious aspect, and the prudent conclusion was, there may be danger lurking here.

VIII

My readers know that the ravens,—in fact, the crows as a family, are gifted with the ability under instruction of learning to speak a few words. Talking ravens are not uncommon in the Old Country. I can not, however, recall more than one instance in which the American crow was so taught, and this was but a very limited accomplishment. Many years ago, in the central part of New York, were two neighbors who lived

at variance. One was an old man. The other had a tame crow, which he had taught to say,—“you old fellow!” This the bird would do to almost every one. So, whenever his owner’s enemy appeared passing the house, the crow saluted him with, “You old fellow!” As this was naturally taken in an offensive sense, it became very annoying, and the old gentleman would lose his temper every time. The matter got into the local court, but with what result I can not now recall.

The following interesting incident is given here upon the authority of Wilson:—

“On the Delaware, a few miles below Easton, resided a gentleman who had reared a crow, with whose tricks and society he used frequently to amuse himself. This crow lived long in the family, but at length disappeared, having as was then supposed been shot by some gunner or destroyed by accident. About eleven months after this, as the gentleman one morning was standing on the river-shore, a number of crows happened to pass by; one of them left the flock, and flying directly towards the gentleman, alighted on his shoulder, and began to gabble away at a great rate, as one long absent friend naturally enough does on meeting another. On recovering from his surprise, the gentleman recognized his old acquaintance, and tried by several civil but sly maneuvers to lay hold of him, but the crow, having now had a taste of the sweets of liberty, cautiously eluded all his attempts, and suddenly glancing his eye on his distant companions, mounted in the air after them, soon overtook and mingled with them, and his friend saw him no more.”

Among the birds, then, surely our crow is entitled by right to hold up its head. He is a bird of distinguished virtues. If he had no foibles he would be more than human. Though occasionally at fault, he is in the main a benefactor. He is capable of friendships, and is also possessed of no ordinary intelligence. If we will watch him in his exploration of a newly-ploughed field, what a fine stateliness, what dignified stepping, what a graceful and upright carriage, the *hauteur* of a gentleman!—perhaps he comes of a distinguished pedigree. We shall soon find out.



CHAPTER XXV.

NATURE'S CURIOS.

I

The Bower Birds. — Avian Æsthetics.



T may have seemed a little out of place to let our crow follow immediately that beautiful sulphur-crested cockatoo, with his quaint yet gaily attired companions, the parrots. Yet it was intentional. Going up the stream of creative manifestation, the parrots, humming-birds, and birds-of-paradise are in all verity Nature's antiques. They are her curios from quasi-fossil lands,—the products of far-distant ages.

The antiquarian, by deep digging, has unearthed the sherds of a primitive race, telling of their crude pottery: and though much more recent, still very far back in time, the same place has yielded the advanced workmanship of the same people in the delicate vase, the object of deserved admiration.

Of course, analogies must not be strained. Nature, in her wealth of resources and inexhaustible inventions, is infinitely beyond slow, plodding man. Yet here is a similitude,—so unlike are her early and her later birds. Compared with the pretty musical warblers, how

uncouth and how unshapely are the ostrich and rhea. But the contrast is even oppressive between the kiwi of Australia and the birds-of-paradise, in the northern part of the same zoölogical province. This region is the especial home of the entire family of the birds-of-paradise. Hence in bird life there is almost the widest contrast possible,—that which offends and that which entrances the eye.

I can not but think that in the former days, ere man was put upon the earth to subdue it, the Creative Mind, speaking reverently, was profuse in glowing and quaint beauty in birds and flowers. In the orchids, and the birds-of-paradise, what marvelous combinations of forms and colors. It would seem that the extremest opulence of creative fancy had been set to reach the limit of possibilities of effect. The human mind must not limit the Divine,—yet can the human conceive less than that the art divine on avian lines culminated in that *recherché* creation, the bird-of-paradise?

II

I would not take from what of good character I have already given to the crow, by quoting the common report “that crows love corn;” but science reveals queer kinships, just as does our human society, and this corn-thief, like many another, brings the blush to the cheek of his high-bred and fashionable relations. For, it is a fact that the bird-of-paradise is first cousin to the crow. And the crow, certainly, as we have seen, has many good qualities which the gayer bird might emulate.

It really does seem that in her new creations, while

adhering to the type, Nature had resolved to vary the pattern, and give to man when he should come on the earth, the "prophet's bird," the raven, in simpler garb, as concerns both form and color, but with more intelligence.

It is observable, however, that there were compensations. The bird-of-paradise has not the raven's feet, hence not the stately march and carriage of that bird in black. Nor, with wings encumbered with ornament, has it an equal facility of flight.

And I am disposed to think that the change of pattern was not abrupt. While retaining the crow type, there were intermediate transitions. On the Philippine Islands is a bird of remarkable beauty, almost as large as the raven. Its head is surmounted with a spreading crest of such delicate airiness, as to look like the spray of a miniature fountain. The upper parts of the body are green, with yellow, this last also marking the throat. But these colors vary with every movement of the bird, as the plumage draws upon the light for a play of prismatic hues. To give positiveness to the coloration, a black band ornaments the head, as a base or set-off to the light-colored crest. The wings have a chromic harmony of dark green, brown, and white. The bill and legs are red,—a little loud to-be-sure. What a gay suit is this for *Corvus Sinensis*, the Philippine Crow!

Speaking of the birds-of-paradise, says a learned naturalist: "Strip them of their gorgeous plumage, and their true affinities become at once apparent, and they stand confessed as being nothing more than gaudily dressed crows." There is a section of these called the

brown birds-of-paradise,—they are rather plain and soberly clad compared with the rest of the tribe, and in them the corvine relationship is plainly noticeable.

III

The central home of the *Paradisæidæ*, as the family is called, is New Guinea, but few naturalists have seen any of them in their native haunts. In these memoirs of the birds we have dealt so far only with those of whom we had a knowledge, more or less complete, by observation of them in their own homes. In this and the following chapter, we shall be concerned entirely with a group, of whose home-life we know nothing, except what we can get from the few adventurous men, who for the purpose of collecting and study have visited the birds in their own tropical wilds.

The birds-of-paradise, according to the most recent system, constitute three sections,—the bower-birds, the long-billed birds-of-paradise, and the short-billed, or birds-of-paradise proper. These should be taken up in their order. Our business is then first with the bower-birds.

These birds, peculiar to Australia and New Guinea, take their name from a structure which they put up, in order, like some intelligent children, to play house-keeping. For, just as one sees some happy children putting up a little hut of boughs, and decorating the floor with flowers, bits of colored china, shells, and such like, so literally will these curious birds do.

The larger one, and the best known is the violet-colored bower-bird. The bower made by them is used as a play-house,—certainly before there is any need of

a nest. In the London "Zoo" were some of these birds alive; and even there, the happy sentimental things played as in their native wilds. Says Dr. Sclater, when describing them:—

"Long before the construction of their nest, and independently of it, these birds form with twigs, skillfully put together, and firmly planted in a platform of various materials, an arbor-like gallery of uncertain length, in which they amuse themselves in the most active glee. They pursue each other through it; they make attitudes to each other,—the males setting their feathers in the most grotesque manner, and making as many bows as a cavalier in a minuet.

"The architecture of the bower is excessively tasteful, and the ornamentation of the platform on which it stands, is an object of constant solicitude to the birds. Scarcely a day passes without some fresh arrangement of the shells, feathers, bones, and other decorative materials, which they bring from long distances in the bush for this purpose. With the same object they immediately appropriate every suitable fragment placed within their reach in confinement."

IV

The birds here mentioned are a great attraction in that wonderful collection of living things in the Regent's Park Gardens, where they are known as the *Satin Bowerbirds*, or *Glossy Starlings*. They are Australian birds, and as civilization trends upon their homes, the pilfering propensity of their corvine nature is excited. Thus, when some article is missed, the native blacks will go

for a bower-bird's home, and sometimes find it. In this matter, the bird has a human penchant for the curious in its collection.

Says Wood: "So persevering are these birds in carrying off any thing which may strike their fancy, that they have been known to steal a stone tomahawk, some blue cotton rags, and an old tobacco-pipe. At the Zoölogical Gardens the bower-bird may be seen hard at work on the surface of its house, fastening the twigs, or adorning the entrances; and ever and anon running through the edifice with a curious, loud, full cry, which always attracts the attention of a passer-by. The satin bower-bird bears confinement well; and although it will not breed in captivity, it is very industrious in building bowers for recreation."

Mr. Gould asserts that the building is done chiefly by the female birds. But his observations were made so long ago, and with his information, also, perhaps limited. He adds too, that the structures are not used for nests, "but probably for assembly-rooms, where many individuals of both sexes sport in the most playful manner. They are also probably used as places of rendezvous during pairing-time, and for the elegancies and amusements rather than the necessities of bird-life."

We may not be surprised that the native Australian, whose appetite is adequate to any thing,—even snakes, lizards, and worms,—has a respect for this ingenious creature, which saves the bird from any harm at his hands. The truth is, that its intelligence seems to impress the mind of the savage with a superstitious awe, the bird being regarded as supernaturally endowed.

V

It was only in 1885 that a bower-bird, which received the name *Amblyornis inornata*, was observed by Professor O. Beccari, in the Arfak Mountains of New Guinea. For a very proper reason this bird is called "the gardener." In this matter of bower-building it surpasses all the tribe. The bird, about the size of one of our thrushes, is very unpretentious in color,—a fact which is told twice over in its unpoetical name, which really means the plain, dull bird.

The Professor says: He had just shot a small marsupial as it was running up a tree, when turning round close to the path, he found himself in front of a piece of workmanship more lovely than the ingenuity of any animal had ever before been known to construct. It was a cabin in miniature, in the midst of a miniature meadow, studded with flowers. Contenting himself for the present with a brief examination of this marvel, he enjoined his hunters not to disturb it.

"After several days spent at Hatam in preserving specimens, he went out one morning, with crayon and box of colors, towards the habitation of the *Amblyornis*, and set himself to the task of making a sketch. At the time of his visit the birds were not at home. Nor was he able to ascertain whether any cabin was then occupied by more males than females, or the reverse; whether the males alone construct the huts, or whether the females aid in the work; or, how far they may be the work of several individuals. That the cabins are used season after season, is made probable from the

fact that they are constantly being renewed and embellished.

"This bird selects for its hut and garden a spot on a level with the plain, having in its center a shrub, with a trunk about the height and size of a small walking-stick. Around the base of this central support it constructs of different mosses a sort of cone, about a span in diameter. This cone of moss seems to strengthen the central pilaster, upon the top of which the whole edifice is sustained. The height of the cabin is at least twenty inches.

"All around from the top of the central pilaster, and diverging outward therefrom, arranged methodically in an inclined position, are the long stems of plants, which they have ingeniously set in place with their upper ends supported on the apex of the pilaster, and their lower ends resting on the ground; and thus all the way around, excepting immediately in front. In this is made the cabin, conical in form, and quite regular in the shape which the whole presents, when the work is completed."

The plants, thus set, not unlike the ribs of an umbrella, may be regarded as the rafters of the cabin. Next many other stems are added, and interwoven in various ways, so as to make a roof at once strong and impervious to the weather. Between the central pilaster, and the insertion in the ground, there is left a circular gallery in the shape of a horse-shoe. The whole structure has a total diameter of about forty inches.

"The long, straw-like stems which the bird uses as rafters are the slender and upright branches of a species

of orchid, a *Dendrobium*, an epiphytal plant that grows in large tufts on the mossy branches of the tall trees. They are as slender as fine straws, and are some eighteen or twenty inches in length. These stems retain their small and closely packed leaves, which are still living, and continue to maintain their life a long while, as is the case with the greater part of the epiphytal orchids of the tropics. And there can be no doubt that these sagacious birds select this plant on account of its vitality, purposely to prevent the decay of their dwelling."

VI

"But the æsthetic tastes of our 'gardener' are not restricted to the construction of a cabin. The most remarkable of all is their fondness for flowers and for gardens. Directly in front of the entrance to their cabin is a level place occupying an area about as large as that of the structure itself. It is a miniature meadow of soft moss, transported thither, kept smooth and clean, and free from grass, weeds, and stones, and other objects not in harmony with its design. Upon this graceful green carpet, or lawn, are scattered flowers and fruit of different colors, in such a manner that they really present the appearance of an elegant little garden. The greater number of these ornaments appear to be accumulated near the entrance to the cabin.

"The variety of the objects thus collected is very great, and they are always of brilliant color. Not only does the *Amblyornis* select his ornaments from among flowers and fruit, but the showy fungi, and elegantly-colored insects are also distributed about the garden, and

within the galleries of the cabin. When these objects have been exposed so long as to lose their freshness, they are taken from the abode, thrown away, and replaced by others." And a favorite source of decoration of the play-yard is found in the gay feathers of the tropical birds which occasionally are picked up.

In closing this too brief account of the bower-bird, I feel that it must present an incompleteness to be regretted. With all the *Paradisæidæ* one is never able to "begin at the beginning." Albeit the efforts of naturalists, and the offers of generous rewards by the patrons of science, the eggs and the actual nesting remain unknown. Hence the nest-building, the raising of the younglets, the parental anxieties,—in a word, all that is comprised in the domestic or home-life of these birds is yet behind a veil. Nor does it alter the main fact that it is said the eggs of the spotted bower-bird are in one foreign museum.

VII

But I must dwell a moment on the technical name of our best known bower-bird, and a vocal peculiarity of some of the species.

The Satin Bower-bird is distinguished by the long yet euphonious appellation, *Ptylonorhyncus holosericeus*; and sometimes we find it, *P. violaceus*. The long word, the *genus* name, means literally "feathered-beak." And this word is anatomically descriptive; yet, strange to say, you will look in vain at the pictures of these birds in the books to find its significance. Hence, I know my reader will be grateful to have the haze cleared away.

The bill of the bower-bird is conical in shape. This formerly put the bird among the starlings, but it does not belong to them. The nostrils have each a large opening, and both are sunk deeply into the sides of the upper mandible. Each of these wide apertures is screened, almost concealed, by projecting plumes from the brow or forehead of the bird. Thus the base of the upper mandible being covered, the bird gets its name, 'feathered beak.'

Respecting the two trivial or specific names, *violaceus*, explains itself, as alluding to the prismatic hues, much as we see in the sheen of our purple grackle when disporting in the sunlight. The other specific name, *holosericeus*, means wholly, or exceedingly silken. The allusion is to the glossy hue and soft "feel" of the plumage, hence the expressive and generally accepted name, the satin bower-bird. In size this bird is equal to a small crow.

And what, pray, of musical accomplishment hath this dainty creature in the satin sheen? As to Australia, its home by choice is in the woods and dense cedar "brush" or groves which flank the large rivers. The birds are at times somewhat gregarious, and in the autumn will gather in small companies upon the ground. When disposed to exercise their vocal abilities, they delight to get up into the high trees, and make the brush resonant with their outcries, not unlike those of a domestic cat. With the green satin bird, which is smaller, this practice of caterwauling in the woods is so common that the colonists have fixed upon it the sobriquet,—"cat-bird."

VII

Now, if our *Mimus Carolinensis* only knew this, how nicely apologetic it might be made. Suppose this person in the homely dress to be taunted with the old affront — “You are only a cat-bird!” How pat might be the reply, — “Ah, well. But there are our progenitors in that far-away sunny land, who wear soft raiment and live in fine houses, are not they similarly named with us? True, our notes of demonstration may not sound to your ears altogether heavenly; but we have it on the best authority that they are quite common even with some of the birds-of-paradise!”

CHAPTER XXVI.

NATURE'S CURIOS. — CONTINUED.

I

The Birds-of-Paradise. — Avian Exquisites.



WE have already seen that the bower-birds, long supposed to affiliate with the starlings, are now set down as a division of the family of the paradise-birds. And as respects the birds, which were always regarded as birds-of-paradise, there are differences dividing them into two sections,—one very notable distinction being in the forms of the bills, some of these birds having long, curved beaks, and others short and cone-shaped. Hence, with the bower-birds, the group or family is thus divided into three sub-families,—the bower-birds, and the long and the short-billed birds-of-paradise, the short-bills being regarded as the typical or representative birds.

It is right just here to say that our knowledge of the bird-of-paradise is entirely due to a few adventurous naturalists. On them must we depend for description and narration, and to Mr. Wallace chiefly as the pioneer. But, first, a few words of an historical character seem needed.

New Guinea, with its archipelago, is the only home of the typical or true-blue birds-of-paradise; though, as if for the sake of proving the rule, there is one exception in the fact,—that a solitary species, known as Wallace's standard-wing, occurs only in the two Moluccan Islands, Gilolo and Batchian.

From time out of mind the East Indian grandees have delighted to decorate their persons with the skins of these elegant creatures; and later European fashions afforded a market. At present the trade is almost entirely in the hands of Chinamen; and the largest marts for the traffic in the East are Macassar and Ternate, the skins being brought there from New Guinea.

The birds are caught and the skins prepared by the native Papuans, who remove them without much care, after which they are pressed between strips of bamboo and smoke-dried, the legs having been cut off and the skull taken out. Of course, such treatment ruins them for the purposes of the naturalist, and as this was the condition of the specimens first seen by Europeans, it furnished the occasion for some wild flights of imagination under the guise of science.

II

When the old voyagers, about three hundred years ago, visited the Moluccas in search of spices, such as nutmegs and cloves, and any object that might be turned into commercial profit, these doughty adventurers found more than they sought. For the purposes of gain they were glad to get any thing curious and new. Cupidity put eagerness into the search. The native Malays under-

stood the spirit of these White Men, and so presented some skins of the since famous Emerald Bird. These sea-rovers were astonished.

"What do you call these birds?" asked the navigator, as we may suppose.

"*Manuk Dewata*," said the Malay; that being his own tongue for "*The Birds of God*."

And this seaman of Portugal looked thoughtfully at these wonderful things. "Sure enough, the strange creature has no feet! It is not of the earth, but of the air!" So changing the pagan's speech into his own, he called them *Passaros de Sol*, "The Birds of the Sun."

Now in those days it was thought the proper thing to write in Latin the marvelous stories of adventure and discovery. Thus, a learned Dutchman gave one more transmutation, and this feathered marvel was announced as *Avis Paradiseus*, the Bird-of-Paradise. So wrote John van Linschoten in the year 1598. This astute man gravely informs his readers that no one has ever seen these birds alive; that they live in the air, always keeping their faces toward the sun, and never alighting on the earth until they die,—for they have neither feet nor wings, as may be seen by examining any of the birds taken to India, and sometimes to Holland; but that being costly, they are only seldom seen in Europe.

No bird has ever been the subject of more fable accepted as sober fact. A certain old writer does timidly qualify his narrative. It was Peter Heylyn, who wrote *Cosmography*, and among the wonders mentioned is "the bird called *Monicodiata*,"—a Latin barbarism for

Malay, *Manuk Dewata*. Of this bird, he adds, "which having no feet is in continued motion; and, it is said, that there is a depression in the back of the male, in which the hen doth lay her eggs and hatch her young ones. I bid no man to believe these relations."

And there was that English buccaneer, Dampier, who for a little while became a restless colonist in our own Virginia. In his *Voyage Around the World*, he says he had seen specimens at Amboyna, and learned from the natives that these birds came to Banda to eat nutmegs, on which they would get intoxicated, and fall senseless to the ground, when they would soon get killed by the ants.

And even in some books still, without intending to deceive, the statement is found that these birds migrate annually to Ternate, Banda, and Amboyna; whereas, no bird-of-paradise in a wild state has ever been seen in either of these islands.

Up to so recent a date as 1758 no complete or entire specimen had been seen in Europe; for it was then that the bird entered upon its scientific career, with a technical name which must perpetuate the credulity of those times. The learned Linnæus named the Emerald—the largest of the species—*Paradisæa apoda*, "the Footless Paradise Bird."

III

Beginning with the year 1854, Mr. Alfred Russel Wallace, a naturalist, spent eight years in the Malay Archipelago, making a study of these birds in their own homes. He is the first to whom we are indebted

for that knowledge which alone is trustworthy, as coming from an actual observer in contact with these interesting objects. Since then several devotees of science have entered the field of exploration; and the number of species made known has been greatly increased.

Considering it the place of honor, the fashion now in zoölogy is to put the first last, so the short or cone-billed birds-of-paradise close up the rank,—they being the first known and hence considered as representative or typical of the family. I will therefore first introduce the long-billed birds.

In some respects the most remarkable species of the long-bills is a bird discovered by Signor D'Albertis, in 1873, at Atam, in the interior of New Guinea. The home of this curious bird is in the Arfak Mountains, at an elevation of 3,500 feet above the sea. It is well named *Drepanornis Albertisi*, that is Albert's *Sickle-bill*. The beak is long, thin, and curved, and measures three and a quarter inches in length. As the bird is but fourteen inches long from the tip of the bill to the end of the tail, the bill is more than one-third of the length of the body and tail. In this respect, with its close, soft, radiant plumage, it is suggestive of the humming-bird. At the base of the beak, just in front of the eyes, though a little higher up, rise two pretty, compact little tufts of feathers, of a bright, coppery metallic-green, as if its forehead were decked with living turquoises. These, toying with the sunlight, can emulate the tints known to the expert in gems; while each fine full eye is set in a naked space of polished blue, as it might be a plate of sapphire. Besides these colors, the

plumage proper is set off in bright coppery-red, brilliant green, white, pale chestnut, and lavender gray, each and all taking on many hues in the iridescent play of light.

IV

In the Moluccas there is one small island known as Ternate. It was in September, 1883, when the yacht *Marchesa* stopped there, and from it stepped on shore the naturalist, Dr. Guillemard. The governing President was Mr. Van Bruijn Morris, who had but recently returned from a voyage to New Guinea, the home of these wonderful birds. Not only was Mr. Morris an industrious collector of birds as an ornithologist, but he kept an aviary of them as pets; and here the newly-arrived naturalist saw with astonishment and delight the most beautiful parrots of the Papuan region, and lories of every shade of color, with other rare birds, from New Guinea. Seeing such a show, it is no wonder that the naturalist should write:—

“But the gems of this collection of living birds were two superb specimens—both full plumaged males—of the twelve-wired bird-of-paradise, *Seleucides alba*. The skins prepared by the natives, which are seen in museums, give no idea of the glorious beauty of the living bird. The sub-alar plumes, whose prolonged and wire-like shafts have given the bird its name, are of a rich golden yellow, and the pectoral shield, when spread, shows to advantage its tipping of metallic-emerald.

“These exquisite creatures were fed on the fruit of

the Pandanus, with an occasional cockroach as a *bonne bouche*. In devouring the insects, which they did by throwing them in the air, and catching them again they displayed the wonderful grass-green coloring of the inside of the mouth and throat. The keen feelings of admiration with which I watched these birds, which are among the most exquisitely beautiful of all living beings, I need not attempt to describe. My reader, if a naturalist, will divine them; if not, no description of mine would ever make him realize the intense pleasure of the first sight of such masterpieces of coloring."

The above is very fine. But I think even it needs a little more detail. The *Seleucides alba* in form is quaint, and in some dispositions of color it is splendid. I do not know what may have been the brilliancy of that Syrian *Seleucides* to whom the bird's technical name seems to allude; but no raiment of man's device could match the dress of our East Indian *Seleucides*. Let us try to see one perched in a tree. The feathers, known as the sub-alars, are in this bird in two flossy puffs, exquisitely airy, and so spread that the bird seems siting in a downy mist of a warm orange-buff color. These shadowy, puffy plumes are composed of long airy feathers. In each puff,—that is, on each side of the body,—the six longest feathers, instead of ending as any normal feather does, the shaft is extended or prolonged like a shining naked thread, or black wire, reaching out beyond the golden haze in undulating, almost curling, lines. As for the neck, it really seems a composition of jewels. Each feather is a pretty little fan, and they are set in concentric curves, lapping on

each other, as we see fancy shingles do with rounded ends. And every one of these fan-like feathery scales is edged with brilliant green, as if the whole might be a breastplate, or a gorget shingled with fan-shaped emeralds. And this shield in a strong sunlight will vary to bronze and purple.

But to return to our naturalist,—he reaches New Guinea, and his Papuan hunters capture alive twelve-wired. Says the overjoyed scientist: "The bird, a male in full plumage and already tolerably tame, was brought in in its bambboo cage, and although we had seen this species alive in the aviary of the resident of Ternate, we could hardly keep our eyes off our new acquisition, so striking was its beauty.

"The method employed by the native in catching the *Seleucides* appears almost incredible. Patiently searching the forest until he has discovered the usual roosting-place of the bird, the hunter conceals himself beneath the tree, and having noted the exact branch chosen, he climbs up at night, and quietly places a cloth over his unsuspecting quarry. The noiseless movements of the native hunter overcomes all difficulties; and the tree once discovered, the chances are against the bird."

How very enthusiastic Guillemard becomes at having secured as a prize, "the curious, and exquisitely lovely little *Diphyllodes Wilsoni*, smallest of all the birds-of-paradise. Behind the head a ruff of canary-colored feathers stands erect above the scarlet back and wings. The breast is covered by a shield of glossy-green plumes, which, towards the throat, are marked with metallic-

green and violet spots of extraordinary brilliancy. The two center feathers of the tail, prolonged for five or six inches beyond the others, cross each other, and are curved into a complete circle of bright steely-blue. But the chief peculiarity of the bird is in the head, which is bald from the vertex downward, the bare skin being of the brightest imaginable cobalt-blue. The *bizarre* effect thus produced is still further heightened by two fine lines of feathers, which, running lengthways, and from side to side, form a dark cross upon the brilliant azure background. We also added a hen-bird of the same species to our collection. Its plumage is of a sober brown, as is the case with all the females of the *Paradisæidæ*."

And a very curious fact is this about the females, so plain are they, and so similar, that sometimes it is no easy task to designate the species of the female. And then the fact that this plainness, almost to homeliness, is in such striking contrast with the showy plumage of the males.

The natives mimic the call-note of the birds, and in this way decoy them. Wallace says of the double-leaf bird-of-paradise, for such is the meaning of *Diphyllodes*, in allusion to the two long tail feathers: "This magnificent bird is easy to kill when one has learned to know its song, which resembles a kind of *teia-teia-teia*, repeated several times with diminishing force. When once you have heard the song, if you approach carefully, especially early in the morning, you will find some small spaces, about a yard and a half in diameter, clear of sticks and leaves, where one or two males are pluming them-

selves. The males erect all their feathers; the skin of the neck swells up; the head seems like the center of an aureola, which is formed beneath by the expanded feathers of the breast, and above by the yellow mantle, which are carried in a perfectly vertical position and spread like a fan."

The bird-of-paradise does a good deal of his playing in a tree, and so select is he in this matter that he always uses the same tree by preference; and a native finding one of these trees turns it to account. The males will play in a company of a dozen or more. The stupid birds become so conceited, hopping from limb to limb, showing off their fine feathers, that all circumspection is lost. The native, concealed at a proper distance, with his blunt arrows, pops over one of the fine dandies, who, stunned, comes falling to the ground, where a boy is placed to kill the bird without shedding blood. And still the dancing goes on, as if nothing had happened, until several are knocked over, when the birds, at last, notice that something is wrong and take to flight.

As to the play-ground, these little cleared-up spaces are used more for dry baths. The bird dusts itself,—and then such a preening! Every feather is seemingly picked and combed with the bill, as if the proud creature appreciated it as a jewel. But here is an opportunity to state an interesting fact. In our first book on the Mammals, the instance was given wherein the habits of Coati-Mondi led to my suspicion of its being physiologically related to the monkeys, which was confirmed by anatomical evidence. So here is a similar fact. A certain learned ornithologist held out stoutly against

the new theory that the bower-birds affiliated with the birds-of-paradise, and not the starlings. But conviction came even to him, on reading the following remarks of Goldie on the habits of the bird-of-paradise, the golden-winged *Diphyllodes*, so similar to the practice of the bower-bird:—

“The bird (the golden-winged) is found in very rough and thick scrubby country, at the head of gullies or on steep sidings, where he clears a space of ground, about seven feet by four, by stripping all the leaves and twigs off the bushes, leaving only the heavier branches. The ground is cleared of all leaves, and is quite bare, and this seems to be his play-ground; in it he dances and flutters about as if at play. The natives know his call, and can attract him; but as soon as he perceives any one, away he flies and can be tempted no more at that time.” These habits, so curiously like the bower-birds, show that this bird can flirt on the ground, as well as in the tree-tops.

But we must now leave the long-billed for the short-billed species, which are the typical birds-of-paradise by pre-eminence.

The huge emerald must always remain the historic—the great bird-of-paradise, *Paradisea apoda*. It is limited to the *Aru Islands*, a group of islets not far from New Guinea. The hunting of these birds for the skins is quite a business among the natives; hence the “play-trees,” at least many of them, are well known, even in the depths of the almost impenetrable forests. As a dozen or so of the males of the *Paradisea apoda*, the very largest of these birds, will disport their grandeur

to a few admiring and homely females, the knowledge of one such tree is a matter of importance. There is a usage which has grown into law, that when a native has found a "play-tree," if he puts his mark on it, it shall be his of right,—and thus by common consent poaching is made dishonorable.

The great bird-of-paradise is an active, vigorous creature, and seems to be incessantly in motion. Its note is, "*wauk-wauk-wauk-wok-wok-wok*" and is so loud and shrill as to be heard at a great distance. This is the most prominent animal sound in the Aru Islands. In May, when in their full plumage, the males assemble early in the morning to play, or show themselves off, as already described. This is done at sunrise, when the native hunter is already concealed in a hut of palm-leaves with his blunt arrows and a boy silent at the foot of the "play-tree."

I will condense Wallace's description of the great bird-of-paradise. It is the largest species known, being some eighteen inches from its beak to the end of the tail. The body, wings, and tail are a rich coffee-brown, which deepens on the breast to a blackish violet, or purple-brown. The whole top of the head and neck is of an exceedingly delicate straw-yellow. The feathers are so short and close set as to resemble plush or velvet. The throat up to the eye is clothed with scaly feathers of an emerald-green, with a rich metallic gloss. Velvety plumes of a still deeper green extend in a band across the forehead and chin so far as the eye, which is bright yellow. The beak is pale lead-blue; and the feet are of a pale ashy-pink. The two middle feathers

of the tail have no webs, except a small one at the base at the extreme tip, forming wire-like cirrhi, which spread out in an elegant curve, and vary from twenty-four to thirty-four inches in length. From each side of the body beneath the wings springs a dense tuft of long and delicate plumes, sometimes two feet in length, of the most intense golden orange color, and very glossy, but changing towards the tips into a pale brown. This mass of light feathers can be elevated, and spread so as to almost conceal the body or make it appear like a bird sitting in a golden spray, as it might be of a fountain.

But there are many species of these marvelous creatures, each one defying accurate description. I can only reproduce the rhapsody of Guillemard on that lovely thing the little kingbird:—

“And in writing of the happily-named birds-of-paradise, perhaps the most exquisitely beautiful of all living creatures, each seems to surpass the last in the glory of its coloring, and the marvelous eccentricity of its plumage; so it is difficult to express the sense of admiration they arouse when seen for the first time in their native land. As the naturalist tenderly and lovingly handles some new and long-coveted species, of which he has hitherto only seen some deformed and wretched caricature on the shelves of a museum, he realizes the inadequacy of superlatives. He can only feel that the little creature which lies before him is perfect, and without fault; so perfect, indeed, that in spite of the rarity of his prize, he can not help wishing he could give it back its life.”

In the plumage of some of these birds black predominates. But when they "put on black" it is no mourning garb. So rich a sable leaves velvet far behind. With its wearer in merry movement, this ebon coat in the sunlight displays a witchery of tints. It is nature's necromancy in color; for upon the instant it can vie with the most imperial violet or purple.


With our good-by to these beautiful beings comes a peculiar regret. We know so little of their lives. What would be our lives with the babyhood blotted out? So of these birds,—we know not their beginnings. Science has never seen their nests or eggs. She knows nothing of the callow birdlets,—the baby birds-of-paradise. She is as badly rebuffed as was that child-mind which asked about the infant angels. And she must take the same comfort as did the child,—“I shall know about it when I am older!”

CHAPTER XXVII.

NATURE'S CURIOS. — CONTINUED.

I

The Humming Birds. — Animate Gems.

ITH the disappearance of the beautiful birds we have just described, which are becoming scarce under the demands of fashion, are not fancy and sentiment also going out under the eliminating action of this electrical age? That was not a credence simply, but a faith, when in our childhood we used to divine with buttercups. As we strolled in the meadows in those vernal days, a little schoolmate would propose to tell our fortunes. So, one of these flowers with the *shining* yellow petals would be held under the chin, when a hazy disk of luminous yellow would appear. "Ah!" said the arch little prophetess, "you will have heaps of gold when your ship comes in!"

Did you ever think of this eccentric effulgence of these wild flowers? It is so like the beauty of the odd lady at the ball, whose elegance had the polished preciseness, the blazon of the extremist in fashion. Take a petal from a buttercup on the road-side, and contrast it with one from your garden marigold. In the subdued

glow of the latter, what a modest softness, as it might be that of velvet or golden plush. But as to the former the petals are as if trimmed with scissors, and so bright—yes, truly, but glittering, tinsel-like.

III

What is that? A bit of rainbow flying? The tiny brilliant! How it flits about the flowers in angular lines like flashing sunlight, with the daintiest dips sipping the nectar. It flashes the colors, but lacks the tone of some of the precious gems. In a word, the luster is metallic.

This animate gem is the Ruby-throat—our one Humming-bird. Among our home birds its luster of plumage is as that of the buttercup among our home flowers. The quality of this luster is known as metallic. Yet this word does not quite express it. The inner case of a gold watch is highly polished, and yet, held in the sunlight, it gives out in a very stinted way its rich yellow. Not so with our buttercup, it casts its color freely. So, generally, with the colors of the humming-birds, they seem to be luminous, and if the living bird would allow, I think upon proper objects, in the correct light, they must emit their effulgence of color. In the Blue Forest-beauty of Brazil, *Hylocharis cyanea*, the head, throat and breast are a shining dark-blue, with reflections of violet.

Did we not notice that the birds-of-paradise, associated with those quaint flowers, the orchids, and to a large extent affiliated with them in a certain richness, yet subduedness of color? Quite often the very satin sheen of these birds and their gossamer softness toned down

any tendency to a flashy splendor, just as in the richness of array all ostentation is taken from the jewels of the bride. In captivity these birds-of-paradise, sometimes of great size, show decidedly gentle traits.

In our elegant little hummers "flash" of color and temper also prevails. These animate gems are 'precious' little vixens. They are touchy and quarrelsome. Still, everybody likes the humming-bird for all its pert, imperious ways, as children love the buttercup, ignorant of its acrid juices. We saw this feature also predominant in the Old World Robin Redbreasts, which every one loved. Without seeming provocation they would fight unto death. So these little hummers among themselves are unamiable to a degree. If two males meet, a contest is almost sure to ensue.

III

A gentleman in Illinois set a saucer of sweetened water in his window to attract the hummers. A pair of ruby-throats came regularly to regale themselves. One day another (male) came also, and set at once to take possession of the dainty, by driving the first-comers off. The two males thus got into a conflict; but the newcomer, in his rage, made such a furious dash at the other, as to drive his beak so far into the body that he could not extricate it, and both fell to the ground dead.

There is no family of the birds which contains so large a number of species as this of the humming-birds. The birds-of-paradise are hardly more than thirty; but there are enumerated in collections more than four

hundred species of the humming-birds, hence it will appear how meager a sketch this must be.

These birds are entirely limited to the American Continent, with some of the adjacent islands. Their especial home is South America. The curious fact about these elegant creatures is, that only one species migrates northwards in our Eastern States, the ruby-throat, and yet their geographical occupancy implies a vast variety of condition. They are found in the Andean range many thousands of feet high, seeming to ascend and descend the mountains, keeping pace with the blooming of the flowers.

Some of the species are found in very limited geographical areas. In fact, there seem to be what we may call species-regions, some very small and others of vast extent. Hence there is among them great diversity of size and form. From the merest midgets they are found equaling a swallow.

IV

As to plumage, the humming-birds indulge in quaint patterns, but are never quite so *bizarre* as some of the birds-of-paradise. The variation of the bill in form and size is very great. There is the straight bill of different lengths,—one scarcely more than a quarter of an inch; and there are the curved, or sickle-bills, some of enormous length, some curving downward and others upward. Always the use of the bill is to explore the flower for its nectar and small insects; hence its shape and length have a close relation to the form and depth of the corolla, or inner cup of the flower. It is also

plain that for probing a pendent flower, such as a fuchsia, the upturned sickle-bill is convenient; while for deep but tortuous flowers, such as some of the orchids, the down-turned sickle-bill is just the right thing.

The Sword-bearing Prober, *Docimaster ensiferus*, has a bill of inordinate length. Not reckoning the tail of the bird, its beak is as long as both its head and body, being fully three inches in length. The slight curve gives the bill the likeness to a sword, while its use or function is shown in the name, Prober. The bird finds its food at the bottom of the deep tubular flowers of the *Brugmansia*, which, though much larger, are very like the flowers of the *Datura stramonium*, and in the old botanies. the plant is regarded as a *Datura*. It may be said of the humming-birds generally, they like the tubular flowers, our one species delighting in the honeysuckles, and the luxuriant orange blossoms of the trumpet-creeper, *Tecoma radicans*. In the *Datura* above, all will recognize the jimson-weed, that Asiatic adventurer, which has seized on our waste places.

In the courtly usages of the Old World the sword-bearer of the state is a man of high distinction. It is averred, too, of the humming-birds that they observe a marked deference to their sword-bearer, as a functionary whose progress must not for a moment be disputed.

By a law of adaption, this variety in the form of the bills of the humming-birds implies that certain kinds of flowers would be claimed by the birds possessing the beaks best suited to probe them, and the most effectually to extract their sweets. Other birds might withdraw the nectar in a small way,—that is, incompletely.

Hence, I think there are facts which indicate a sense of right of possession, so that an intruding bird subjects itself to bodily peril, as a trespasser on one of these floral reservations will not be tolerated.

V

The plumage, in form and color, shows great diversity of pattern. As with the birds-of-paradise a few are very plain, showing nothing remarkable either in shape or coloration. Some are so quaint as to be almost comical in their appearance. A word picture of the White-footed Racket-tail, would read thus: A small bird, not much more than three inches in length, with the two outside feathers of the tail even longer than the bird itself, and tapering till they become mere wires, then expanding into two rackets, which are black, shot with green. The feet are yellow, and each leg is encased in a white puff. The greater part of the body is a bronze-green, the green on the upper tail-coverts being redder and richer. "The throat and breast are brilliant emerald." The wings purple-brown, the tail brown, excepting the rackets.

This pretty oddity is common near Santa Fé de Bogotá. The bird is said to be remarkably swift of wing, its darting flight being like the passage of an arrow through the air. At one moment it is hovering near the ground extracting the sweets of a flower; at the next, it is shot to the summit of a lofty tree, as if impelled from a bow, leaving on the observer's eyes the impression of an emerald green line of light. While hovering over the flowers, the long racket-shaped feathers

of the tail are in constant motion, waving gently in the air, crossing each other, opening and closing in a graceful manner. But when it darts off in its arrowy flight, these feathers lie straight behind, forming a rudder in the air.

VI

A pretty but odd group is the genus *Lophornis*, the crested-birds, so designated because every species of this genus has a crest on the head, also a series of feathers on each side of the neck, which, when erected, project at right angles. These birds are known as coquettes. They have an aspect of pretty pertness, which seems to have secured them this name. The *Lophornis ornata*, a tiny creature about two and a half inches long, has a high crest of rich reddish-brown. The upper part of the body is a bronze-green, the gorget and forehead being the same color. The wings are a purple-black, and a broad band of white crosses the lower part of the back. Below this, and including the tail, the color is chestnut, except the two central feathers which for a large part are green.

A special quaintness is imparted to the pretty creature by a series of plumes set on each side of the neck. Each series is composed of about a dozen stout feathers, almost a third of the length of the bird's body. When the little thing is showing off, they stand out straight and separate from one another. Each feather is a pretty object in itself, being a snowy-white, but tipped at the top or end with emerald-green. In repose these feathers lie down snugly; but, when the bird is in the humor

for display they are made to stand out,—and thus a frill is produced, setting off the neck in a wealth of grotesque beauty.

The manner in which the crests and side-plumes are varied in these coquettes imparts character and a novel interest to these birds. In the species known as Helen's Coquette, the crest is divided into a pair of pointed horns of lustrous green. These are set so as to impart a sort of pert gravity to the face. Just back of these, on the head, and directed sideways, and outward, start six long thread-like or wiry feathers,—three on each side, reminding one of the six-wired bird-of-paradise. In this bird the neck-plumes, which are robust and pointed, give the little thing quite a touch-me-not aspect.

VII

I wish now to spend a little time on that singular hummer known to science as *Loddigesia mirabilis*; for the caudal appendage of this bird has an interest to naturalists which the tail of no other feathered creature has.

If you will look at the tail of a bird, you will see at the base a number of short feathers which are called the tail coverts, because protruded, as it might be out of these, are the real feathers of the tail. These long stiff feathers are known as the *retrices*, which is the plural of *rectrix*, the Latin word meaning governess, or directress; for, as the tail of a bird is its rudder, or steerer through the air, these feathers considered separately are directors. As the non-flying birds need no rudder, we find them virtually without these retrices.

Some birds have a large outfit of these caudal feathers—even as many as thirty—but the prevailing number with a great majority of the birds is twelve.

Now the normal number of retrices possessed by the humming-bird is ten, and though this family of birds has by far a larger number of species than any other family, yet so rigid is the rule that there is but one exception, and this is in the genus *Loddigesia*, which has but one species. This fine bird has only four retrices, the one solitary novelty of the kind in the whole realm of bird-life.

And this bird in respect to its tail is unique in another way. The form and disposition of these feathers are also strangely exceptional. The two middle ones are so short as to be entirely concealed by the coverts, hence, as rudder feathers, they are without function. Thus, steering is left entirely to the two outside feathers. And these two are so greatly extended, that if we do not reckon the bird's beak, they are nearly four times as long as the bird itself. And all the way nearly to the tips, these enormously long tail feathers have no web,—that is, the shafts are naked, but at the end each expands into a large battledoor of a superb indigo color. Each of these long feathers is bent into a semi-circle. Thus the two shafts cross each other twice, once a little way from the base of the tail, and again farther along, when the two flattened ends diverge.

One is led to wonder if vanity ever enters the tiny noddles of these pretty midgets; for the male does sometimes put these fan-like extremities to a singular use. Upon occasion, the Mongolian grandee will in courtly

etiquette shade the face with his fan. Loddigesia, if adult,—that is, accomplished,—will turn his two long-handled fans up behind and over his head, thus bringing the beautiful expansions to shade his brow, as the acme of gallantry when in the presence of the lady Loddigesias.

We may well wonder how these curiously bent long feathers can be used for steering. It is in this way. When they are lifted up, the two semicircles lie together side by side, and so strengthen each other,—and the two spatulæ, or battledoors, are set face to face. So the two retrices become as one, and that one like an oar. And this bird is in continual motion,—a rapid flier, darting with unerring precision through the thickets,—though it must needs change its course every moment, for collision would injure its fantastic dress.

VIII

This elegant creature, pretty even in its oddity, possessing a tail so extraordinary as to make it unique, has always been regarded by naturalists with the highest interest; and by collectors an object of special desire. For more than fifty years there was but one specimen known. This was owned by a Mr. Loddiges, and so received the name *Loddigesia mirabilis*. Such was the admiration and envy, that for a long time a Mr. Gould offered \$250 for a specimen. At last, M. Stolzman obtained a number in the mountains of Peru, at an elevation of between 7,500, and 9,000 feet.

Quite showy is the dress of this wonderful little fellow. The crown of the head is a brilliant sapphire-blue. The

upper parts are a golden-green. The throat is a glossy-green, with a blue tinge in the center, and around a narrow band of coppery-red, which also is set off with a border of black. The sides of the breast and flanks are a dull white. The middle of the breast is a velvet black with a coppery tinge. The long under-tail coverts are for half their length bronze-green, when the color runs into a blackish-blue, and white at their tips. The tarsus is covered with white feathers,—which means that the bird wears white gossamer stockings.

And if we are to believe the natives, Loddigesia is a dainty little fellow in other particulars. He is very nice about his meat and drink. Quiet water, however pure, is not to his taste. He prefers a natural sedlitz,—an effervescent water directly from the rocks.* Hence, he is only content to sip at the foam of a tiny cascade, whose play with the sunlight is not unlike his own iridescence.

And as to his meat, this he finds in the sweets and the nectar-feeding insects in the deep chalice of the red *Alstroemeria*. This fine flower is one of the *Amaryllis* tribe, and not without a toxic quality. Now there is a gay 'chap' with a fine name,—a hummer known as *Lesbia gracilis*. The graceful Lesbian, forsooth! If judged by his conduct he is a graceless fellow,—the delight of whose crabbed nature is to persecute his betters, especially Loddigesia whenever he meets him. Now, if there is any flower that *Lesbia* especially dislikes, it is this very "Lily of the Incas," so when he finds Loddigesia at his meal, he leaves him to dine in peace.

The young males are playful creatures, and seem to

delight in aerial gymnastics. Two of them will dart, like a flash through the air, then suddenly stop and confront each other, and while thus face to face their bodies are poised, or suspended in a strange manner in the air. They will then open out the two long retrices or tail feathers, so that they make one straight line, and at right angles to a line taken lengthwise of the body. They will then cast themselves from side to side, as dancing a fandango in the air; and every time the feathers are thus thrown out, they produce a sound like that of snapping or shutting a watch. This is really their castanets. During this the voice of an adult female may be heard not far off, perhaps that of the mother rejoicing in the happiness of the youngsters.

CHAPTER XXVIII.

NATURE'S CURIOS.—CONTINUED.

I

Our Northern Hummer—The Ruby-throat.



O bird constructs so small and elegant a nest as that one solitary humming-bird which visits us each summer, the Emerald or Ruby-throat. Flitting over the flowers, it is more beautiful than they—an aerial brilliant, as if a bit of the finest and glossiest malachite of Siberia had become a living bird, and then had put on a gorget made from a precious red ruby.

The nest of the little emerald is a tiny cup saddled on a small branch. As if the pretty midget were proud of its vernal suit, the little nest is made like to a tiny cup of malachite. It is hardly two inches across, and the main fabric is woven of the finest fibers, and the inside is lined with the soft, flossy pappus of silk-weeds, thus providing for its future pair of callow atoms a cozy satin bed. But all this is for comfort. The pride, the taste must go on the exterior of the edifice. Here, then, is spent not only the art but also the artifice of the little architects. It is much as if the little designers

should say: "What is daintier than that cup-like tuft of lichens on the old oak-tree! So our nest shall be made as pretty; and in this way we will deceive the sharp eyes of our enemies."

Such a nest is just over my head, on the spray of a small oak-tree. I can not tell how I happened to see it, but then one sometimes sees by instinct. It is so built upon, literally saddled on the small branch, that it looks like a symmetrical lichen growing there. It is truly a rare gem of avian art. The outside is daintily cased with well-chosen morsels of lichens, and glued on with the saliva of the little builders, and the result is a mimicry of Nature's own work. In the nest are two pure white eggs, each one hardly a quarter of an inch long.

II

This use of lichens for ornamenting their nests is a favorite practice with the humming-birds. In some places in California and Colorado are plantations of the Australian Eucalyptus-trees; of these, the lichens, as yet, do not seem to have taken hold, yet the different species of humming-birds delight to build in them, and even keep up the fashion of decorating with lichens, going a great distance to get the material.

It may be that these birds have their whims. The species in the Valley of the Quito seem to be notional. They have strayed from the well-considered ways of the elders, and eschewed lichens altogether, notwithstanding they are at hand in great plenty. They use the true mosses. Well,—is the innovation a wise one? In bird logic, I think it is not. It is contrary to ex-

ample and against the common bird-sense. Besides, as a rule, the mosses prefer the ground, while the "foliaceous," or leaf-like lichens, love the trees. Hence, if these Quito hummers are trying mimicry on a new line, it looks as if they were leaving the realism out. Another curious fact in the nesting of the humming-bird is, that sometimes the female lays her complement of two eggs before the nest is completed. She begins at once to sit, and the male goes on finishing, putting on the ornaments doubtless in a very loving way.

The forms of humming-birds' nests are numerous. Some are pensile, almost like the orioles, and some are a conucopia shape, attached by the side to a branch. Mr. Gould mentions one of these which was lopsided, so the birds built a stone into one side to balance it.

The tongue of the humming-bird is not only tubular but it is also tipped with a viscid or glutinous brush. It is adapted to taking of insects and the sweet juices of flowers also. It is to a considerable extent projectile, having an arrangement for this purpose very like that described in the woodpecker. The nectar, and minute insects they find in the depths of flowers, especially the small spiders, are their food.

An interesting observation has been made of the way in which one of the species nurses the nestlings, and it may prove true of others. A learned naturalist asserts that the Golden Humming-bird, *Oreotrochilus*, feeds its youngsters in the nest by plucking myrtle flowers, and presenting them to the little birds, which suck out their sweet contents. They are then thrown away, and the parent-bird goes off for more. How like "angel food!"

Now as to this tubular tongue and buzzing wing of the humming-bird. In both particulars the exception constitutes a marvel among the vertebrates, since of them all, these endowments belong to the humming-birds only, and its analogy is limited to the insects.

The tongue of the sphinx-moth is not unlike a hollow wire. It is put up in a pretty coil, and when opposite a flower it is uncoiled, straightened out, and thrust into the corolla. Like the humming-bird, the wings have an admirable muscular equipment, so that they can move with a rapidity such as produces a little misty, indistinct shadow, as the insect is poised in air sucking the flower. This arrangement of muscles and wings is, upon examination, quite plain in the humming-bird, and produces a similar little mist as does the sphinx, with a loud, humming sound, the same being done by the moth, but only distinct to good ears. Respecting the tongue of the hummer, it is a problem not yet quite solved. The action of the tongue is entirely suctional in the insect, but not so in the bird.

III

In respect to our own Hummer, *Trochilus colubris*, our Ruby-throat. It is a courageous little thing, seeming to fear nobody. One day I observed a pretty ruby-throat in the garden, hovering over some flowers. To my surprise it settled on the ground, a very unusual act, though the golden-hummer is said to do so. The fact is, their feet, which are admirably fitted for perching, are not at all suited for walking. I picked the little fellow up, and could not detect any thing wrong with it, so I

took it into the house. I then plucked a tubular flower, into which I dropped some sweetened or sirupy water. The pretty thing perched on my forefinger, sipped the sweets in the flower greedily; but next day it died. And all experience proves that as pets they will not live long.

Taken as a family, the humming-birds constitute the most remarkable group of feathered beings. In some respects their forms are the most *outré*. This we have seen in their plumage. But in this regard the birds-of-paradise outdo them. Yet no group has such variety in the forms of bill,—the nearly straight and the curved bills, some curved downwards, and others upwards,—and such extreme difference in length. The *Rhamphomicon*, or little-bill, as the name implies, has a beak but one-third of an inch in length, while a sword-billed *Docimastes* has a bill several inches long, even longer than its body. The tongue is unique,—suggesting the form and function of a suctorial insect. As to their plumage, these birds are unrivaled in brilliancy and variety of colors,—the yellows, the blues, the greens, the scarlets, and the crimsons. In these last two colors, the Sapphos are ablaze, and the popular terms are expressive—Flame-bearers, and Sun-angels. And in general, it may be said of the colors borne by the humming-birds—they are pre-eminent in tone and tint, and the photic quality of iridescence, and sometimes possess a sheen or glow that is almost luminous.

And these birds differ so much in size. Some forms are so diminutive as to be smaller than many a tropical insect. Yet with it all, and, notwithstanding what a few enthusiasts have said or dreamed, these pretty things are songless.

IV

These little creatures can be made extremely tame and confiding; but as yet it has not been found possible to keep them alive beyond a very few months. The story of his tame ruby-throats is much too long for our purpose, so I will give a condensed account of "Webber's Tame Humming-birds."

Entering the library one morning, Mr. Webber saw a humming-bird fluttering against the window. Softly he opened the sash, and the bird entered and was caught. The captive was a ruby-throat. It lay in his hand, as if making-believe to be dead. He called to his sister to prepare a mixture in a cup of ten parts water, one part sugar, and another part honey. While this was being prepared the little thing lay still in the palm of the hand,—once in a while slyly peeping, then closing its eyes when it saw it was watched by its captor.

But who can 'play possum' with the fragrance of ambrosia around? Softly a drop of the nectar was put on the tip of the bird's bill. The effect was magical. As if suddenly come to life, the little thing was upon its feet and partaking such a deep luscious draught of this improvised nectar as it never had done in all its life before. And, then, how novel the experience,—a wild birdie sipping sweets from a silver spoon! Having taken its fill, it perched on the finger as in the confidence of a long acquaintance; and as much at ease as if on some spray of a tree, it began preening its rumpled plumage, to make it befitting the new company it was in. Gayly colored birds take pride in fine clothes.

It seemed quite at home,—in fact, thoroughly tamed in one short hour. The next day it would come from any part of the room, and perch on the finger of either the brother or sister; and it would alight on the white cup to get its drink of nectar. Its little life seemed made of luxurious joy.

But in three weeks it began losing its vivacity. Afraid that it might die, it was with reluctance resolved to let it go. So the cage was hung in a lilac-bush, and the door opened. It came out, and away it flew. The little cage was now covered with flowers, the sweetened water in the white cup renewed and replaced in the cage. The door of the cage being open, it was now left in the lilac-bush.

In an hour back came the bird. It seemed bewildered at sight of the flowers on the cage; but, after some flitting around and due inspection, it recovered confidence, and entered, settled on the rim of the cup, took a long deep draught, and was out and away again to the trees. At evening it came back to the cage, and allowed itself to be shut in.

Ruby was now in excellent condition again. It had evidently obtained some necessary food. Its entertainers had offered it small insects which it did not accept. As it afterwards appeared, the pabulum needed for a change of diet was spiders.

V

Mr. Webber next added two fledgeling hummers to his pets. These took at once to the white cup, and sipped its sweets eagerly. Ruby, the first pet, seemed

to regard the new-comers with some *hauteur*, while they, knowing no better, were quite indifferent to their superior.

It was not many days before the young ones began to mope; and it was decided to do for them as had been done for Ruby,—let them go. So the door of their little cage was opened, and they were invited to take an airing for their health. The midgets embraced the opportunity,—but they had never tried their wings. True, they got out of the cage and with an effort settled on the spray of a bush.

Now Ruby lost all his *hauteur*. He showed that he had a knowledge of the situation. He did not fly away as usual, but staid with the little things, making very short and significant flights,—then returning, flitting about, and talking to them as well as he could. Then off he would go again, making pecking actions at some dead twigs in a bush. He would then come back, poise himself in the air before them, as if to say: “See, how easy it is. Now try, yourselves!” He was teaching the fledgelings to fly.

And bright pupils they were, too; for they spread their pretty pinions. They had now got the knack of flying,—and all three were off to that dead part of the bush.

Ruby showed them the place. Here were cobwebs—and of course spiders, too—and the young birds helped themselves to what was to them food and medicine both.

The three all went back to their home where that white cup was. They would even answer a call-chirp of Mr. Webber or his sister, and alight on the finger.

Visitors came to see the tame little humming-birds. To show them off to advantage, it was only necessary they should be a little hungry, and the magic cup of nectar brought out.

The middle of September came, and the migrating of the birds had set in. The pets had caught the migration fever, and were becoming restive. As this was putting their lives in peril, they were allowed to go out-of-doors; and at once they were off for that far-away tropical land, which instinct tells about to the birds.

One morning in the ensuing May, as Mr. Webber was reading his book in the summer-house, a humming-bird came, and poised itself in the air right before his face. Much excited, he called to his sister to prepare the cup of nectar, and come quick, for he thought one of their young pet-birds of the previous summer had returned. The sister did so, and gave the well-known chirp. It was recognized, and the bird settled on the rim of the cup, and took a long, delicious draught. The lady almost cried with joy, and both laughed outright.

Next day the other two hummers, as he believed—Ruby, and the other young one, came to that cup of nectar and their home. Another family was soon added, so that six pet humming-birds now were in the room. As these were given their liberty they would come from the trees at the chirping-call, and the sight of the white cup, and, after drinking, they would alight upon their entertainers.

Set free in the autumn, they all left and not one was ever seen again. Had they fallen on some mortal peril, such as assail the birds, however beautiful?

VI

I dare not in this place enter upon the geological story that science tells of these beautiful creatures. The narrative is much too long. But of this we may be assured that the birds-of-paradise and the humming-birds were early creations, hence in a play of fancy, with a basis of fact, we have called them Nature's antiques.

And was it not a little startling when we found our crow so closely related to the bird-of-paradise? How very interesting are these singular contrasts, and here they occur again. It is nearly noon, and a bright July summer-day. The honeysuckles are abloom and delightfully fragrant. Two hummers are regaling themselves at the flowers, and literally gleaming in the sunlight. What now? Ah, we forgive the naughty fellows, the two swifts that have built their nest in the chimney,—they are darting through the air catching flies.

The popular voice calls them Chimney Swallows. Science declares they are no swallows at all,—that the name of the Chimney Swift is *Chaetura pelagica*, the Oceanic *Bristle-tail*, in allusion to the peculiar ending of the tail feathers. And, further, science tells us that the chimney-swift and the humming-bird are 'full' cousins. Truly Nature breaks down distinctions when the chimney-sweep is made first cousin to the king in his royal purple.

CHAPTER XXIX.

OUR ASYLUM BIRDS.

I

The Bicolored Swallow.



DO not know a bird that is wholly proof against every evil tongue. Probably the nearest to it is the Swallow.

We have one of these, the truest home-bird of them all, and which patterns the least after the typical species, in that it does not spurn the ground, but often alights lovingly on the bosom of Mother Earth. This is the Bicolor or Greenback, an exclusively American species.

The tail of this especially American bird is not so long, nor so much forked as that of the common swallow, and it is even shorter than the wing.

The bird is more capricious than the swift, or purple martin, not seeming like that species to be eager to nest in a house provided for it. Its old love for the holes in trees still continues. But though they seem only seldom to appreciate man's offer of a home, they are not slow to help themselves to any material for nesting that man may put in their way; and there is an amusing sort of twittering, as if bearing off a stolen prize, when

a bird finds near a human dwelling a bit of rag or string, or even paper.

However, there are exceptions to the offishness of these birds. A number of the Bicolors, perhaps, finding holes in trees far too few for the demand, have built in boxes set up for them; and some have ventured on nesting under eaves of barns and outhouses, and have even ventured into the porches of human dwellings.

And this species, too, upon occasion, has manifested that quality, loveable wherever found,—sympathy for its own kind. Mr. Ridgeway says he observed when he was collecting near Carson City, that when one was shot the survivors showed great concern, circling with plaintive twittering above their dead or dying comrade.

This bird, unlike the other swallows, does not use mud in building its nest. The material is chiefly dry grass, the central depression being filled with feathers. The fabric thus resulting is a rather loose affair, and without artistic effect but for the occasional accident that the ill-arranged feathers may curve over from the sides, as the mother bird nestles on her eggs, thus producing a sort of canopy, which is pretty, solely because it is artless. As nest-builders the swallows in general rank high among avian artisans, their structures evincing great skill. But our Bicolor is a notable exception. The bird evidently is content to trust the cavity in the tree to hold its nest together,—and ingenuity in construction is out of the question, being altogether unnecessary. Herein she will lay usually five eggs of a beautiful, clear white color, with a faint roseate tint. “They are extremely thin and fragile, and their form

is a slender oval." It requires but fourteen days to hatch the eggs, and the birds will raise two broods in one season.

Dr. Brewer says of these birds that they will return to the same place season after season, and when nesting the bird will accept feathers offered it. "A pair which had thus year after year received supplies of feathers for their nests from the younger members of the family, in whose yard their nest was built, would almost take them from the hands of their providers. This pair sat so close as to permit themselves to be taken from their nest, and when released would at once fly back to their brood."

II

The following interesting passage is cited by Dr. Coues: "Myriads of swallows are also the occasional inhabitants of Honduras. The time of their residence is generally confined to the period of the rains, after which they totally disappear. There is something remarkably curious and deserving of notice in the ascent of these birds. As soon as the dawn appears, they quit their place of rest, which is usually chosen amid the rushes of some watery savannah, and invariably rise to a certain height, in a compact spiral form, which at a distance often causes them to be taken for an immense column of smoke. The desired height attained, they are then seen separately to disperse in search of food, the occupation of their day.

"To those who may have had an opportunity of observing the phenomenon of a water-spout, the simi-

larity of evolution, in the ascent of these birds, will be considered surprisingly striking. The descent, which takes place regularly at sunset, is conducted in much the same way, but with inconceivable rapidity. The noise which accompanies this can only be compared to the falling of an immense torrent, or the rushing of a violent gust of wind. Indeed, to an observer it seems wonderful that thousands of these little birds are not destroyed, in being thus propelled to the earth with such irresistible force."

III

Broken-wing Bickie.

But I must tell the true story of a bird patient of ours, one of these same "white and black" swallows. It was that strange time, in the early autumn, so prettily hinted at by the poet,—

"And is the swallow gone?

Who beheld it?

Which way sailed it?

Farewell bade it none?

"No mortal saw it go,

Who now doth hear

Its summer cheer

As it flitteth to and fro?"

Yes, the swallows had held their aerial convention, at which the whole tribe had gathered; and they had made the air resonant with their discussion. The bird parliament had broken up with the usual migration

unanimity — and there was adjournment until spring — and every one had gone. Every one? No! there was one exception.

It was in September, when my oldest boy brought in a wounded bird which he had found in the bushes, not far from the house. It was very wild and did its best to avoid capture. We took the little stranger in, hoping to get it right again. It was found impossible to splinter the broken bones, so the limb was left to itself, after it had received such attention as my wife could bestow upon it.

The children now set to catching flies, which the hungry little stranger took eagerly from their fingers. The bird soon made a fair meal, and our next move was its disposition for the night. A bush was set up in a corner of the room, in which the bird was installed.

IV

I must now go a little out of my way for a bit of botanical knowledge. In Japan there is a wax-bearing tree, the *Rhus succedanea*, and in Guatemala the tallow-tree, *Myristica sebacea*. And similarly, almost all along our own eastern coast, is the candleberry-myrtle, — the nutlets of which, like small peppercorns, are coated on the outside with a thin film of wax. This little bush is known to the botanists as *Myrica cerifera*, meaning literally the Wax-bearing Perfumer. In the olden days it was the proper thing for a maiden to spend time and patience until she had gathered from this plant enough wax to make a candle to burn on her wedding-night, and on other subsequent high occasions.

So it was that I directed a goodly-sized bush of the fragrant wax-myrtle to be obtained for the bird, who, thus embowered, seemed to enjoy the arrangement.

The children were now desirous of knowing the bird's name, and what they should call it. I directed their attention to the fact that in a general way the pretty creature had the form of a swallow. Hence, I said, it had formerly been known as a *Hirundo*, the generic word for the swallows proper, and that it took its specific name from its two predominant colors. Wilson called it *Hirundo viridis*, the Green Swallow; for in a certain light its back is a lustrous silky-green. And this dark color of the entire upper part of the body is in contrast with the pure white of the entire under part. We may call the upper part of the bird's costume a swallow-tailed coat of green velvet, and in front a great white waistcoat reaching far down, like as it was with the well-dressed in the old times of trunks and hose. Hence, because of this contrast of the two colors, the bird was long known as *Hirundo bicolor*—the two-colored swallow.

To the above I added that I thought they would notice some peculiarities which would cause them to doubt if the bird were one of the typical swallows. However, as I had said at other times, all pets should have their own names,—we should fix this matter at once. As I had used the word *bicolor*, the name Bickie was naturally suggested. That settled it; and the bird was left to itself for the night.

The next morning the children made the discovery that Bickie had been eating the little stony bayberries,

just for the sake of the film of wax upon them. This was what I had expected. They were then told that the genuine swallows lived entirely upon insects, which they captured only while on the wing. All this by mistake was long asserted of our Bicolor. But you observe here two facts of this bird not found true of the common swallow. It is partly a berry-eating bird, and so of necessity partly a bird of the earth, and not wholly of the air.

V

The children now began to note a difference of form from the church swallow which had so greatly interested us. Bickie was more dumpy in build, and his tail not so long, nor the long feathers so widely separated. My little daughter, with a spice of child wit, thought the swallow-tail-coat had been cut down to a bob-tail.

I suppose my readers by this time will have guessed that the systematist at last saw the necessity of putting *Hirundo bicolor* into a new genus. This has been done by more than one, and the designation now accepted, although a long one, has the merit of being significant. The passage given respecting the habits of this genus of birds, as witnessed by that observer at Honduras, and other facts recorded, show that these birds have extraordinary powers of flight. Hence the new name *Tachycineta bicolor*, the first word meaning the swift-flyer.

In three days Bickie had become quite used to us,—in a word, very tame. The pretty stranger evinced a

good deal of intelligence. He soon learned the meaning of the movement of the hand when catching flies on the walls or at the windows, and he would at the sight snap his little bill with impatient expectation; and when the hand approached him he would hop on the finger, and take the proffered insect with all eagerness. In fact, he soon got so that he would leave his bush, and follow any one of us who entered the room, actually begging for flies.

The supply of berries or tiny nuts was kept up, by putting a new bush in place every three or four days. The children had observed a fact which was turned to the bird's advantage. The bill was very weak, and many of the nutlets were quite hard to pull off,—these they would remove for him. And the little creature learned to observe this, and soon became quite willing to have the nuts pulled off for him, if not a little loath to do much of that work for himself.

VII

Although the bill of the Bicolor is short and weak, so that it is somewhat of a strain to pull off the bayberries, yet it is wide at the base, thus affording a capacious opening. We had a saucer of water set near the bush; and I soon saw how this structure of bill was utilized for the purpose of drinking. He would sit on the rim of the vessel, and with his mouth open would give it a quick forward and upward push on the surface of the water. It was a scooping movement. In this way the lower bill would lift up the water; the head was then raised just a little, the beak closed and

the fluid allowed to run down the throat. And this is doubtless the way swallows drink in their skimming movement over the surface of a pond or lake.

A week had elapsed, and it was now plain that the migration fever was over,—a happy circumstance for Bickie, as there was no prospect that the poor cripple would ever join his people again. The bird had been a little more active than usual, and the wing was now bleeding badly. The fracture was in the forward extremity of the wing, among the small bones, known as the phalanges of the fingers in the highest animals. As there was no tendency to unite, it was resolved to amputate the fractured part. This resolution caused distress to the children, but only required a simple snip of the scissors,—it was momentary and gave no pain. The little stranger seemed actually relieved by the removal of the dangling part, and healing began at once, one wing being simply left a little shorter than the other, which provoked one of the children to give him the nickname of “wobble-wing.”

As a pet, Bickie became more and more enjoyable. His tameness grew into an almost excessive familiarity. Every day seemed to develop new traits. He was allowed the full range of the kitchen, and he even would chase the flies; and upon very fine days ventured out-of-doors. One of the children had a whistling chirp, a bit of bird mimicry, to which Bickie would respond by running to him when he heard it.

But birdie was not always so obliging; for there were occasions when he did not respond to our calls; and once, especially, his conduct in this respect caused

us a great deal of uneasiness. He had been missing some time, and evening had come without our finding him. The cry of "Bickie! Bickie!" was kept up in vain. The poor little fellow was at last found squeezed between two grimy pots in the kitchen-closet. I think he had got fast. When brought out into the light of the lamp, the emerald coat of the little stowaway had a peculiar sheen in the lamp-light. The circumstances of this little glittering object of our concern brought into vivid contrast the words of that Oriental poet: "Though ye have lain among the pots, yet shall ye be as the wings of a dove covered with silver, and her feathers with yellow gold."

VII

One day when the sun was shining with an almost summer warmth, the bird made for the window, and seemed to enjoy the situation as much as if he had been with his tribe in the Sunny South. Standing on the window-sill, he began to stretch himself and shake out his feathers, and then to our surprise and delight gave us a pretty, full-throated little song. The happy creature! Did he think he was in his own Florida home? Well, this was not the only illusion in which Bickie indulged.

The bird, because of the warmth, got into the habit of creeping under the kitchen-stove. Of all places this was his favorite resort. One fine morning the sunlight was streaming in at the eastern window. A pot on the range began to boil over. This made a rush of steam across the beam of sunlight, and a pretty phenomenon

occurred, a beautiful display of the prismatic colors, — in fact, a little rainbow, exactly such as you have seen when the bright sunlight has crossed the spray of a cascade.

Evidently a similar vision was recalled to Bickie's memory. Had not he upon occasion taken a vapor-bath in a miniature rainbow? And why not do it again? So, in true bird glee, the little fellow with plumage puffed out ran straight into the pretty illusion! Ha! ha! my little fellow! You are taken in this time! There is a great difference to the birdies between a hot Turkish bath, and the cool spray of a cascade in your native woods. How the little deluded thing did dash about the room in pain and astonishment at his warm reception!

This mishap, with others, caused us to consider the necessity of abridging Bickie's liberties. So he was put into the cage with Billie, the canary. The latter seemed to like the arrangement, and showed ample disposition to a friendly entertainment. But Bickie was shamefully offish, and whenever the canary sidled up with amicable intentions he would snap his little bill in an angry way. We then put him in a cage by himself; but he moped, and was so unhappy that we had again to allow him the freedom of the kitchen.

VIII

Bickie was very fond of my wife, who has generally a sort of magnetism over animals, meaning as I do by the term simply a kindness which all dumb creatures are quick to perceive and appreciate. She had a play-

ful way of teasing the little stranger, pinching with her fingers the feathers on the back of the neck, and lifting it off its feet, then shaking it gently, and at last squeezing it lovingly in her hand. Though Bickie, as I have said, liked his mistress, yet he would resent this treatment. And his resentment afforded some amusement, as being really funny. He would often get into a splurge of temper, and in his petit anger would become almost musical in a comical way. He would wiggle and twist and twitter in a succession of rapid but very low and sweet notes, mixing in with spicy effect a sort of tiny staccato, by snapping with his little black mandibles, as if they might be the bone accompaniment to his vocal song.

Bickie had been in our asylum just thirty-three days when a catastrophe occurred, which came near resulting in his discharge from hospital. The bird had become reckless, fearing nothing, thus losing entirely the quality of circumspection.

Early in the morning the door being left open, with no one in the room, a neighbor's cat entered. The animal sprang for the bird on the floor, and the little thing dashed into the baby's shoe. The cat seized the shoe just as my oldest boy entered the room, who took in the situation instantly, and threw himself headlong upon the brute, which was making for the open door with the shoe containing the bird in her mouth. The lad seized the cat by the throat, for not until he choked her would she relinquish her capture. It was a terrible thing for Bickie; though I regret to write that it did not increase his discretion.

The bird had met with several narrow escapes from its running into contact with the feet of persons walking across the floor. But the fatal peril came at last. My daughter stepped on the giddy little thing. I find in a note-book a minute account of the little sufferer for the last three days of its life; but it is too long to repeat here.


The accident occurred on Friday, and the poor little thing lingered until the Sabbath. It was a glorious day at the close of October. There was not a cloud in that mellow autumn day save the one grief over Bickie's death; for the tiny patient died at noon. The demise of our asylum birdie was a big grief to the children. And similarly has it been from the ancient days. For, did not the children of Greece and Rome love these birds with an affection tempered with pious awe? And was it not a pretty fable—the wise say, a myth—which commanded the sincere belief of young and old, that when the halcyon days came the swallows came also—lovingly and eagerly—they being the embodied spirits of departed children coming back to look upon their old homes again.

CHAPTER XXX.

OUR ASYLUM BIRDS.—CONTINUED.

I

Our Invalided Snipe.

 INTO the family *Scolopacidæ* are cast the Woodcocks, Snipes, and snipe-like birds; thus it contains the bird long called the English Snipe, so like is it to the foreign bird. It is now, however, known as Wilson's snipe, and is not regarded as a true scolopax, which designates the European Woodcock, but it is set down as *Gallinago Wilsonii*, literally Wilson's Wader.

Owing to their early arrival, interesting habits, and the skill which they exact of both dog and man, these birds are the favorites of the sportsman. The law, I believe, consigns this gamy creature to the gunner as early as the 10th of March in these parts. About this time it is with us on its migration return to the north, where it finds its wonted breeding grounds. Each stage of this journey is made at night. It alights on the way to feed, stopping a day or more on the margins of ponds, salt-meadows, and similar wet places. An old gunner said: "The prevalence of southerly winds, and

a hazy sky, with drizzling rain, is favorable to their migration northward." And, curiously, the old fishermen of the Delaware used to say the same of the coming of the shad. Hence these men called the snipes shad-birds, and declared, that the scarcity or plenty of the one denoted the same of the other.

And a very gay bird is this snipe, so "nobby" in its make up,—so neat, pert, and trim. And well the sportsman knows how capricious and tricky it is in flight. If one has watched the triangulations of a turkey in pursuit of a grasshopper, he will appreciate the last statement. With a jerk the old gobbler advances rapidly a step or two toward the object. Then he turns to the right, making alike time and distance; next to the left observing the same formula of movement. Then he makes a tangent to the first line; next another one bisecting the last. Then the "hopper," in hunter phrase, is "bagged."

So it is in this matter of snipe-shooting,—what patience, perseverance, and skill, and what quietness and an absorbing look-out are required of both man and dog. The high-bred sagacious beast is as cautious and wary as his master. So he starts the birds softly. Well, they are now flushed. Perhaps there were six of them. Such movements! Each looks as if it might be a tiny turkey in pursuit of a grasshopper by eccentric movements in the air.

II

The movement of these birds, when thus alarmed, seems defiant of all system. Such zigzags! Such utterly

unexpected lines! The gunner must guess instinctively when and where to shoot, being especially careful not to aim where the bird is, but where it probably will be. Should the dog get impatient, or the gunner lose his head, it will prove bad business for both. To the sportsman the moment is all exciting, and exacting of nerve, patience, steadiness, coolness, and, to a degree, skill. The noble dog is excited too, but keeps steady and true. His master fires—but not a bird falls! The opportunity is gone! Poor Flash—he suppresses a whine of disgust!

Some have thought this action of the birds was wild. I think it is cool. This seeming capriciousness of flight is all with a purpose. Just think how contrariwise it must be, and what method or system is necessary when performing their perilous migrations at night.

The American Snipe, or Wilson's properly, makes her nest in some boggy place. It is little more than a depression in a grassy or mossy spot. Here it lays three or four eggs, well-nigh an inch and three-quarters in length. They are pretty much pear-shaped, of a grayish-olive, with amber-brown markings, massed over the thicker parts of the egg. The small end of each egg points to the center of the nest.

But this bird is the nabob of his race. I wish to speak now of an humbler personage, sometimes not charitably called by the gunners 'the foolish snipe,' and oftener the red-breasted and the brown-back. In the books it is distinguished by the long name *Macrorhamphus griseus*, the short word meaning gray, and the long one, big-bill. Their eggs and nesting are not much unlike those of the Wilson.

Says Dr. Coues: "The Red-breasted Snipe is a gentle and unsuspicious creature by nature. They gather in such close flocks that the most cruel slaughter may be effected with ease. As we approach a pool we see numbers of the gentle birds wandering along the margin, or wading in the shallow parts, probing here and there as they advance, sticking the bill perpendicularly into the mud to its full length with a sudden and dexterous movement, and, sometimes, even submerging the whole head for a second or two. All the while they chat with each other in a low, pleasing tone, entirely oblivious of our dangerous proximity. With the explosion, the next moment some are dead or dying along the strand, others limp or flutter with broken legs or wings, while the survivors with a startled *weet!* take wing. Not, however, to fly to a place of safety; for in a compact body they skim away, then they circle back, approaching again the fatal spot with a low, wayward, gliding motion, and often re-alighting among their dead or disabled comrades. They alight so compactly that it seems as if the timid creatures sought re-assurance in each other's company, huddling together in mute alarm. In a little while, if no other appearance disturbs them, they cast off fear, and move about separately, and resume their probing for the water-bugs, leeches, worms, and soft mollusks which form their food."

All this is in striking contrast with the techy wildness of the famous American, or Wilson's bird. But can a snipe be tamed? Yes, for I once owned such a one; but it was of the gentler species just described. As might be inferred from the story of lame Bickie,

it has fallen in my way several times to keep hospital for some invalid wild bird or other animal. I would not like to claim any eminence in this matter; yet I have made a discovery in this field of suffering, to the effect that a close analogy exists between God's wild birds and his more favored but wayward children. In both cases, affliction brings out the graces. I think it has proved especially so with all my dumb acquaintances. Catch a live snipe in health if you can,—and, despite your kindness, it will likely perish from its incorrigible waywardness.

III

But I must tell the story of my invalid bird, the *Macrorhamphus griseus*, the pretty Brown-back Snipe, which I must introduce as—

Blind Brownie.

It was a good many years ago, in the metropolitan city, that I took some of my pupils on a summer-day, just beyond the city's crowd, to a quiet little nook by the river's side for a swim. Such a place at that time was not hard to find. On such happy occasions the teacher saw much which the boys, in their hilarity of joy, did not. Observing a snipe standing on the water-line, I cautiously approached, wondering that a bird rarely seen in such a place should be so indifferent to our presence. Still it moved not. I now advanced boldly, and took the little thing in my hands. The explanation of its singular conduct,—a sad one, indeed,—

was now apparent. The poor bird had lost one eye by a shot, and from mere sympathy the other had become sightless.

The little sufferer made no resistance. Tenderly I conveyed him to my home. A course of gentle leechcraft was at once entered upon. The eyes were washed with warm water and castile soap. One eyeball was wholly gone; the other shone like a dark bead. Full of hope, I persevered; but in vain,—it too was sightless. I now saw it was an ‘incurable.’ The patient had come to stay.

In every institution the first inquiry is the name of the new-comer. Because of the trim carriage and dainty airs of the bird, he was for a little while known as Yellowplush; but as he grew into a pet, sympathy named him Blind Brownie.

All good nurses know how important is the dietary of the sick. And in the present instance, with appendencies so peculiar, the question of feeding my patient became a serious one. But, then, a little consideration of its structure and habits soon set all right. But to make the situation intelligible, a short dissertation on the beak of this bird seems necessary.

IV

The bill of a snipe is a beautiful object of study. How long and slender it is; and how soft-skinned all over. Hence, what extreme sensitiveness, especially at the tips. If a person inserts a finger even in the softest kind of a kid glove, for the purposes of touch, how much is that sense blurred! But supposing, for the

nonce, one's finger could be covered by a glove filled with delicate nerves. That would be like the soft skin that envelops the long bill of the snipe. It is a membrane crowded with nerves, and in consequence as sensitive as the apple of the eye. This, then, is a very delicate probe. When it enters the wet sand or mud or slime, no organic thing, however soft or seemingly impalpable, can come in contact but it is instantaneously felt and recognized,—then captured and appropriated as food.

Knowledge supplies the facts or principles, and wisdom applies them. I had now the key to the whole situation. So I stood the blind bird in a saucer of water,—clean and cool. There was an instant quiver through the bird's whole body. Every feather seemed to sleek up. It was a thrill of bird experience which said as plainly as could be, "This is just the thing." Then down went that wonderful bill into the water. And such a curious movement was then made, exploring the bottom, and trying in vain to probe it. That was so suggestive!

Again, I took the hint, and at once had bread-crumbs dropped therein. This was casting our bread upon the waters, and with what splendid results! How I did enjoy that sight! That delicate, sensitive organ, the bill, needed no aid of the eye. To my convalescent it was as good as tapioca pudding. He had never eaten its like before, and he ate his fill.

In time all its cruel wounds were thoroughly healed, and the bird, although totally blind, was in complete health. Master Brownie became wonderfully trustful,

and would manifest gladness when he heard my voice. He seemed to have learned that he must be set in the water, and would submit with good decorum to be lifted up in one's hand for that purpose. In truth, this great grace of trust, of faith in one's benefactor, had grown to a rich development, and entirely out of a discipline of suffering.

V

Occasionally, Brownie was allowed full freedom on the kitchen-floor. He would at such times literally "go it blind." With his long bill directed forward, he would start his stilt-like legs running so fast you could hardly analyze the movement, until suddenly the sensitive point of that delicate organ would strike the wall. Although I must think that this striking of that delicate probe gave a real shock, yet its effect was but momentary. After standing perhaps a few moments to consider, the bird would turn itself, then running as if for dear life, would take a bee-line in another direction, and getting a sudden fetch-up at the table leg. There was again that momentary pause, then the turn about, another bee-line run, this time the bill coming in contact with the rung of a chair. And so, perhaps, for half a-dozen times, each act with its mishap bringing down the house in applause from paterfamilias to the youngest child; for to the entire household, the setting of Brownie on his travels was an occasion of merriment.

Whenever we had company, that was a red-letter day for Brownie. Then he was admitted to the parlor and

shown off, as is the custom with remarkable babies. Of course he was set into his saucer, and fed this time with real worms, if procurable. If these failed, bits of vermicelli, well-soaked, were played-off on him as genuine vermes. In this way our pet would get up a real lively time in his fishing preserve, to the general edification of his audience, as it really was a sight worth the seeing. The fishing over, Brownie would be pushed out of the saucer and sent upon his travels. Thus started, as we have seen, no commercial agent ever went more straight to his object, or was more direct in the presentation of his bill than was our Blind Brownie.

The outlook was really full of promise for the bird. His appetite was good; and, in fact, excepting his sight, all seemed well.

VI

But, as with pets generally, our blind foundling at last came to grief. It happened to this giddy little body as it has to many other honest folk. Excess of freedom wrought him ill. In these parlor explorations our pet soon met with a new experience. The soft nap of a Brussels carpet suggested to his sensitive understandings the oozy bed of a wet shore. So the bird would probe the carpet with its bill, going over a good deal of space in this way in a short time, and actually swallowing such of the loose nap as he could detach. On one occasion, as the bird seemed drooping, he was allowed the freedom of the parlor alone, and to prevent accident the door was locked. This was in the morning. I had to go away, but returned in the afternoon. As I opened


the parlor door I chirped, and my pet ran towards me to be taken up.

I now saw that it was in trouble. While foraging the carpet, it had found more than was wholesome, even for poor Blind Brownie. The poor little fellow grew speedily worse. He declined all food. Even his favorite bath had ceased to be a delight. The next morning we found our pet dead: and not one of us knew till then how deeply little Brownie had grown into our affections.

CHAPTER XXXI.

BIRD ANGELS.

I

T is a generation of years since an old man, named H. H. Hope, wrote a strange story of a remarkable girl whom he had known personally. He declared that his narrative was correct and true, though even when he wrote it had happened a long time ago. This story shall be the final chapter of our little book.

But, first, I am reminded that the writer alludes to Georges Sand, then a young person, who had already achieved fame as an author in France. He speaks of a power over animals which the French authoress "so inimitably and beautifully describes as belonging to a young girl."

Now this lady, Madame Dudevant, who as an author assumed the name Georges Sand, herself had a wonderful power in this direction. A writer in *The Critic* says: "I visited Georges Sand often at her chateau, Nohart, and whatever may have been her habits in her wanderings, her old age was beautiful. Daily she took a stroll in the park immediately after breakfast. At a simple sign from

her—a wave of the hand—all the birds flew around her, perching on her shoulders, and eating crumbs from her hand. She then left them and went to her literary work.”

But we must take up as much as we can of Mr. Hope’s extraordinary story, and with the greater zest, as he vouches for its truth. He has a little discussion on “animal magnetism,” on which he sheds no light. The scene we can only say we believe to be laid in a Southern State.

II

Penelope Darling, the Bird-tamer.

This young girl seems to have come first into notice as possessing a remarkable control over animals, by her subduing a horse, under circumstances that excited wonder and admiration. This power was extended to all living things with which she was acquainted; but it seems to have been especially wonderful in its effect on the birds.

She was a poor girl; but out of her venture with the horse came her adoption into the family of the owner of the animal. In her former humble home she had a little aviary, and her adopted father gave her the use of a small building into which her collection of living birds was duly installed. In it she had specimens of all the living native birds which she could obtain.

“It was one of the most beautiful sights my eyes had ever been permitted to behold on earth, to witness the perfect susceptibility of so many birds to the impressions which this girl made upon them. At any

time, within two minutes after she came where they were in their little cages, whose doors had been left wide open, where they might be sitting in their nests, hatching their eggs,—or on their little roosts where they might be with their heads curled under their wings, sitting quietly and fast asleep,—her presence seemed to work upon them like a spell of power; an insensible and invisible yet almighty presence seemed to go forth from her, and to rouse them all into the highest degree of exhilarable excitement.

“I recollect going with her one fine morning to her great bird-rookery to see her perform her maternal duties, and play the part of mother to her collection; for I know of no other term so well fitted to express the relations which she seemed to bear toward birds. As soon as the door was opened by her, and she stepped in, the first songster that saluted her was the American brown thrasher, or mocking-bird. He seemed to be the leader; and by a few beautiful, soft, yet trilling notes, he rose to the dignity of a matutinal salute. Instantly, hundreds of birds were in a flutter. Their little necks outstretched, heads uplifted, eyes wide open, feathers fluttering, tails expanded; sitting down, standing up, walking about, trilling, chirring, singing half-notes, little bits of songs, rousing themselves up to receive new installments of vital energy, and getting themselves organized into proper relations to life.

“Never, elsewhere, have I seen such an exhibition. And the impression was mutual; the girl seemed to be as much affected by it as the birds were. Her face put on a peculiar hue; her eyes, as compared with their

common expression, looked decidedly unnatural; she seemed suddenly to grow in height; there was a variation of aspect about her as a whole. Her lips were slightly parted; her nostrils dilated to the largest extent; the tips of her ears came forward with a sort of natural instinct, as if her whole soul was on the alert to catch every single song sung by the hundreds of these little songsters, all waking up from their rest of the night to a fresh life at morning dawn. For, although it was broad daylight, and even the sun was just peeping over the top of yonder eastern hill, the building stood so shaded and clustered all around by large, old apple-trees, that the light within its walls seemed to be of that soft, mellow kind, which in a bright summer morning is visible at four o'clock.

"The girl cast a rapid glance over every part of the aviary, and then walking hastily about its outer edges, threw open the doors of such cages as had been closed, and then, taking her way down the middle of it, did the same with the cages that were suspended from its top, thereupon she began a beautiful carol herself.

"Instantly she was responded to by so many and such different voices as to make one think of music of the sweetest, softest, most harmonious, yet most incomprehensible nature. Strange as my feelings were when I heard these numerous and varied notes, which I had no artistic power to separate and arrange in order, and which seemed to be the veriest discord, yet it was the most beautiful discord I had ever heard, I was not so forcibly struck by the *music* as I was by the *living tableau* which presented itself to my sight.

III

“Within the space of half a minute after this girl began her song, you could not have told whether she was a boy or a girl, white or black, or what she was, so completely was her person covered with feathers; and these feathers on the bodies of the birds. They flew out of the cages in every direction and alighted upon her till they made her perfectly invisible, so far as her external appearance and her countenance were concerned; and language gave you nothing for its representation but a mass of varied and beautiful plumage. —

“They were on her head and shoulders by the dozen,—they clung to her skirts and to her dress in every direction,—and screamed and trilled half-notes with such indescribable excitement as to thoroughly impress me as I never had been impressed before. Some of them were hanging upon her skirts head-downward, some sideways; some were on her shoes,—some were on each other,—and so wherever they could get a possible chance, they alighted.

“Now, when I tell my readers that from an old owl, whose eye-sight began to grow dim as the day began to dawn; from the eagle, whose eye gleamed darkly among the rest; from a tame crow, whose ‘*caw*’ filled in like a deep bass ’mid tenor music,—clear through the whole list of birds of which we know any thing in this country, and some about which we know nothing except as they are imported,—they were all on her, around her, about her; and those who were not able to alight upon her were whirling about her

head as if in a most thoroughly excited state, you may judge what sort of a scene was presented.

“During this she stood perfectly still. All at once she gave a little *chirk*, followed by a little whistle, and they began to go away from her—this one, that one, and the other. And so they each went back with as much order and regularity to their cages as ever one saw a puppet move from side to side at the will of its operator. Then she went from cage to cage, took out single birds, and perching them on her hand, her arm, her shoulder, or her head, she would sing as the birds could sing; and it seems to me, from my present point of remembrance, as if she imitated with great skill the natural notes of more than fifty species of birds while we stood in the bird-house.

IV

“I was so interested by the scene, that it entirely destroyed the balance of my nervous system for half a day. I could not eat my breakfast,—I scarcely knew whether I was in or out of the body,—certainly, I had been in different relations to life from any I had ever before sustained. I thought of the Garden of Eden before sin had entered it,—what wonderful beauty the mother of all living must have had; how glorious and transcendently admirable all her inspirations must have been, as they came direct from the heart of the Great Father of all! I thought how sweet must have been the music in that spot, over which the imaginations of the highest and most cultured minds have roamed for six thousand years. I thought—till I could think no more;

and then wondered if, in the ages to come, Earth would ever see herself reinstated in her primeval beauty, and the morning once more dawn when all the stars should sing together and the sons of God shout for joy.

"But my surprises were not at an end. In the afternoon of the same day we were to drink tea in the orchard. This occasion was memorable to me, chiefly for the additional evidence which it furnished of the wonderful faculty and power of this girl-child, to impress all who came within her reach. The place where we were invited to sit down and partake of the gratifications of the table was a beautiful knoll, rising some eighteen or twenty feet above the surrounding land. It was covered with the most beautiful green grass, shaved close by the scythe, and was, as I have said, sheltered by the overhanging branches of thrifty old apple-trees. At its foot was a running spring coming out of the earth, and gurgling away through the meadow to the creek, which in its turn emptied into a lake at the western side of the village.

V

"This grassy knoll was in the center of a lot of a few acres which Mr. F. owned, and wherein on this present occasion were feeding his horse, which had been taken out of the stable; a cow, which Gerrit had lately purchased; and the turkeys and chickens, among which were a beautiful pair of game-fowls, the male of which was a proud fellow, clad in red feathers, with a black breast and yellow legs, and who walked about as if he were 'monarch of all he surveyed.'

“In every branch of every tree overhanging us there seemed to be birds; and when we had seated ourselves at the table, and Mr. F. had asked a blessing, and our repast had begun, the music of these birds was beyond all expression enchanting. The horse, which, when we first walked up the knoll, was at the farthest end of the lot, came nearer as if musing on the scene before him, till he stood within a rod of us; the cow wandered up to the outer edge of our little circle; the turkeys and chickens were all around us, with their cluck and gobble. And Penelope, the presiding genius of the repast served us with inimitable grace, and appeared on this occasion to be as apt in the performance of the duties appropriate to the hour as she had in the morning shown herself able to perform her duties at the aviary.

“At the conclusion of our supper Penelope arose, and, walking away from us some twenty or thirty feet, sat down on the grass and began to sing us a ‘wee bit of a song,’ such as she had sung in the morning when the birds came down and alighted upon her. It seemed to have the most magical effect upon every thing about us that had life; first upon the birds, then upon the horse, then upon the chickens, then upon the cow, then upon the turkeys, and lastly upon ourselves.

“She was surrounded by a living mass of life; the birds lighted upon her and sung; the horse neighed; the rooster crowed; the cow lowed; the turkey gobbled; and we, first in amazement, then in delight, caught the spirit of her song, and laughed and sat down on the ground, and for the nonce made ourselves like ‘little children,’ who are playing under the shade of some

pine-tree whose long, old branches hang down over the edges of some pebbly brook.

"I never can forget that day; and though I am now an old man, and this girl has grown up, and is now one of the foremost women of the country, in all that gives grace and glory and greatness to human character, she has in no relation of life ever impressed herself upon me in any direction as she did in the manifestation of her wonderful power over those animal organizations, made by divine ordainment subject to man."

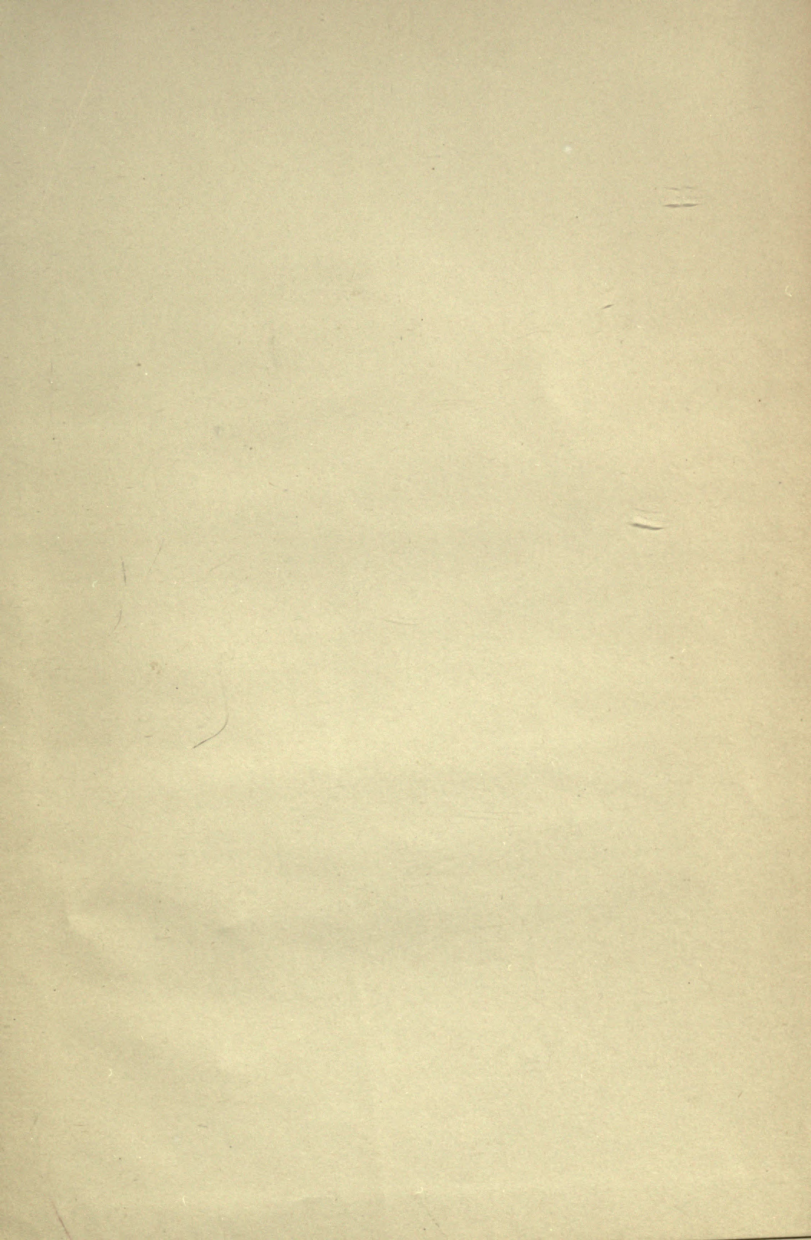
VI

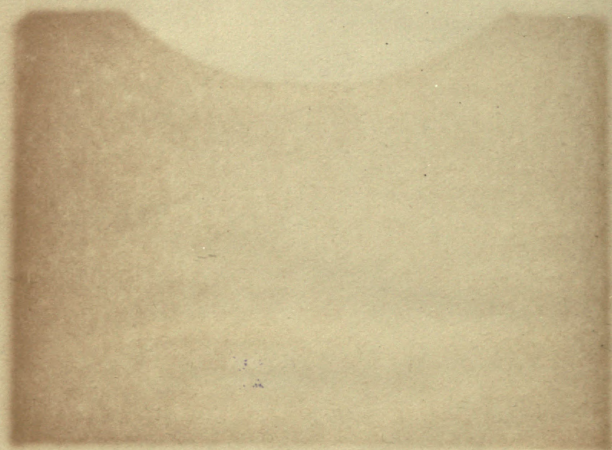
Such in the main is the narrative which fascinated me some thirty years ago. The aged writer asserted its truthfulness. It seems to me a fitting close to this little book, in order that my readers may see the beauty and majesty of the law of human gentleness and love.

"The robin and the bluebird piping loud,
Filled all the blossoming orchards with their glee;
The sparrows chirped as if they still were proud
Their race in Holy Writ should mentioned be;
And hungry crows, assembled in a crowd,
Clamored their piteous prayer incessantly,
Knowing who hears the raven's cry, and said,
'Give us, O Lord, this day our daily bread!'

"Whose household words are songs in many keys,
Sweeter than instrument of man e'er caught,
Whose habitations in the tree-tops even,
Are half-way houses on the way to heaven."







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